DRAFT ENVIRONMENTAL IMPACT REPORT

BUTTERFLY DISCOVERY PARK

SAN FRANCISCO PLANNING DEPARTMENT

1999.244E
STATE CLEARINGHOUSE NO. 1999122022

DRAFT EIR PUBLICATION DATE: MARCH 24, 2001

DRAFT EIR PUBLIC HEARING DATE: MAY 3, 2001

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MARCH 24, 2001 TO MAY 8, 2001

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DATE: March 24, 2001

TO: Distribution List for the Butterfly Discovery Park

FROM: Paul Maltzer, Environmental Review Officer

SUBJECT: Request for the Final Supplemental Environmental Impact Report for the Butterfly Discovery Park (Case No. 1999.244E)

This is the Draft of the Supplemental Environmental Impact Report (SEIR) for the Butterfly Discovery Park Project. A public hearing will be held on the adequacy and accuracy of this document. After the public hearing, our office will prepare and publish a document titled "Summary of Comments and Responses" which will contain a summary of all relevant comments on this Draft SEIR and our responses to those comments, and may also specify changes to this Draft SEIR. Public agencies and members of the public who testify at the hearing on the Draft SEIR will automatically receive a copy of the Comments and Responses document, along with notice of the date reserved for certification of the SEIR by the Planning Commission; others may receive such copies and notice on request or by visiting our office. This Draft SEIR together with the Summary of Comments and Responses document will be considered by the Planning Commission in an advertised public meeting and certified as a Final SEIR if deemed adequate.

After certification, we will modify the Draft SEIR as specified by the Comments and Responses document and print both documents in a single publication called the Final Supplemental Environmental Impact Report. The Final SEIR will add no new information to the combination of the two documents except to reproduce the certification resolution. It will simply provide the information in one document rather than two documents. Therefore, if you receive a copy of the Comments and Responses document in addition to this copy of the Draft SEIR, you will technically have a copy of the Final SEIR.

We are aware that many people who receive the Draft SEIR and Summary of Comments and Responses have no interest in receiving virtually the same information after the SEIR has been certified. To avoid expending money and paper needlessly, we would like to send copies of the Final EIR to private individuals only if they request them. If you would like a copy of the Final SEIR, therefore, please fill out and mail the postcard provided inside the back cover to the Major Environmental Analysis Office of the Planning Department within two weeks after certification of the SEIR. Any private party not requesting a Final SEIR by that time will not be mailed a copy.

Thank you for your interest in this project.

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1.0 SUMMARY

A. PROJECT DESCRIPTION

The Butterfly Discovery Park project site is located in the Financial District of downtown San Francisco, on a portion of a 230,550-square-foot (5.29-acre) site consisting of Assessor's Blocks 202 and 203. The project site is bounded by Washington Street on the north, Clay Street and the Four Embarcadero Center loading driveway on the south, The Embarcadero on the east, and Davis Street right-of-way on the west. Drumm Street bisects the site from the north to south, separating Blocks 202 and 203. The site is owned by the City and County of San Francisco, with ownership divided among the Public Utilities Commission, the Recreation and Parks Department, and the Department of Real Estate.

The Clay and Washington Street ramps of the elevated Embarcadero Freeway formerly passed over the southern portion of Block 202 and touched down at Block 203. The Embarcadero Freeway was demolished in 1991 as a result of damage sustained during the 1989 Loma Prieta earthquake. Since that time, the project site has been public open space.

The existing zoning for Blocks 202 and 203 is P (Public) with an OS (Open Space) height and bulk district. The entire site is designated at Public Open Space in the Recreation and Open Space Element of the San Francisco *General Plan*.

The proposed project involves the construction of a museum and learning center. The museum and learning center would consist of two separate buildings, one in the southern portion of each block, connected by a pedestrian bridge over Drumm Street. The project is proposed to be constructed in two phases. Phase I would consist of the development of a 65,000-square-foot building on Block 202, including the butterfly conservatory, exhibit areas, gift shop, café, and outdoor landscaping. Phase II would involve the development of a 85,000-square-foot building on Block 203, including additional exhibit spaces, educational facilities, offices, storage, and members' meeting facilities. The proposed buildings would be two to three stories, with heights ranging from 30 to 40 feet. The design of the proposed buildings is still in a conceptual stage.

The Butterfly Discovery Park would operate seven days per week. The operating hours would be from 10:00 AM to 6:00 PM PST Friday through Wednesday and from 10:00 AM to 8:00 PM PDT on Thursdays and during certain holidays. According to the project sponsor, attendance is expected to be about 420,000 visitors in the first year, with a sustainable annual attendance of around 400,000 thereafter. The Butterfly Discovery Park would employ an equivalent of 38 permanent full-time employees after completion of Phase I, and an additional 17 permanent full-time employees after completion of

Phase II. During the summer period there would be additional part-time employees.

Upon completion of both Phase I and Phase II of the project, the proposed building footprints would occupy approximately 58,000 square feet of Blocks 202 and 203. Landscaped areas would generally be located to the north of the museum and learning center buildings, fronting on Washington Street. The northern three-fifths of Block 202, dedicated open space under the jurisdiction of the Recreation and Park Department, would remain open space. If desired by the City, the project sponsor would re-landscape the remaining open space areas on or adjacent to the site to be compatible with the museum and learning center use. About 53 trees of the 194 trees on site would be removed for development of the project.

The main entrance to each of the proposed buildings would be located on Drumm Street. The project does not propose any on-site automobile parking spaces. The project sponsor will request the Department of Public Works to designate about 260 feet of white passenger loading zone in front of the entrance to the building on the west side of Drumm Street, and about 160 feet of passenger loading zone in front of the entrance to the building on the east side of Drumm Street. On both the east and west curbs, the northern 100 feet would be set aside for buses only, and would accommodate a total of four buses. One off-street loading space for the Phase I building would be provided off of Drumm Street north of Clay Street, and one off-street loading space for the Phase II building would be provided off of Clay Street east of Davis Street. In addition, the project would include five secured bicycle parking spaces for employees, pedestrian walkways, and an the enclosed pedestrian bridge mentioned previously.

The Port of San Francisco and other San Francisco City agencies have proposed the construction of a 340- to 450-space parking garage under Block 202. At this time, the status of the proposed garage is uncertain. Where appropriate, the analysis of environmental impacts in this EIR reflects the presence of the underground garage.

Construction of Phase I is anticipated to begin in the Fall of 2003, and would take 30 months to complete. Construction of the Phase II building is anticipated to begin in 2010, and would be completed in 30 months.

Following publication of the Draft EIR, a public hearing and 45-day public review period will be held. Responses to comments received on the Draft EIR will be prepared after the close of the public review period. The Final EIR (FEIR) will consist of the Draft EIR and the response to comments. The Final EIR will be presented to the Planning Commission for certification as to its accuracy, objectivity, and completeness. No discretionary project approvals may be granted or permits issued until the FEIR has been certified. After certification of the FEIR, the proposed project would require the following approval requests:

- Possible amendment to the Recreation and Open Space Element of the *General Plan;*
- Approval of a Planned Unit Development and Conditional Use Authorization;
- *General Plan* referral for a major encroachment permit for the proposed pedestrian bridge;
- Approval of the encroachment permit application for a pedestrian bridge by the Board of Supervisors;
- Building Permit and Demolition Permit Applications; and
- Other approvals.

Pursuant to Proposition M, the City would also be required to determine that the project is consistent with the City's Priority Policies.

B. ENVIRONMENTAL EFFECTS

B1. Land Use, Zoning and Plan Consistency

With development of the project, land uses on the site would change from primarily open space to a mix of institutional (museum and learning center) and open space uses. The elimination of the continuous nature of the open space on Blocks 202 and 203 would affect different user groups in different ways. According to an observational survey of site uses, the user groups that would be affected include pedestrians, people sitting on the site, and recreational users, such as joggers, bicyclists, and skaters. The project would provide some areas for passive recreational use, but these areas would be smaller than the existing areas available. The loss of publicly accessible open space in a dense urban setting, while affecting a limited number of users and viewers in the immediate vicinity, has been conservatively identified as a significant environmental impact. The loss of open space that would result from the project would also conflict with the land-use planning for the project site and vicinity.

Construction of the garage would also change the character of the open space areas on Block 202 where the garage entrances and exits are provided. However, the garage would not be expected to change the overall open space character and use of the site as it is anticipated that the garage would be underground with a park-like setting at the street level.

B2. Transportation and Circulation

The transportation and circulation discussion in this EIR summarizes the *Butterfly Discovery Park Transportation Study*, prepared by Wilbur Smith Associates on March 2, 2001.

The four signalized study intersections in the vicinity of the project site operate at acceptable levels of service during the weekday PM peak hour and the weekend midday peak hour. The site is readily accessible by public transit. Off-street parking facilities in the project area contain about 4,890 self-park and valet spaces. Most surveyed facilities were at 100 percent occupancy during the weekday Midday peak, and the overall occupancy was estimated to be about 97 percent. Overall weekend occupancy is about 87 percent. In the project vicinity, pedestrian volumes are relatively high, especially during midday and the morning and evening commute periods. In general, the four crosswalks at the intersection of Clay and Drumm Streets operate at an acceptable level of service. Bicyclists in the project area are mainly concentrated on The Embarcadero.

Three planned improvements will affect the transportation facilities in the project vicinity: the MUNI *South of market Action Plan* (which includes changes to the transit service in the South of Market area and surrounding neighborhoods); the extension of Davis Street between Washington and Clay Streets; and the proposed 340- to 450-space parking garage under Block 202.

The proposed project would generate a total of about 3,642 daily weekday person-trips (inbound and outbound), and 273 weekday PM peak hour person-trips (inbound and outbound). Of the 273 new person-trips generated during the weekday PM peak hour, about 44 percent would be made by auto (120 trips), and about 28 percent each by transit (77 trips) and walk/other modes (76 trips). The 120 auto person-trips represent 59 additional vehicle trips (21 inbound and 38 outbound).

On weekends, the proposed project would generate about 4,304 person-trips, and 693 person-trips during the weekend Midday peak hour. Of the 693 person-trips generated during the weekend Midday peak hour, there would be about 309 auto person-trips, 178 transit trips and 206 walk/other trips. The 309 auto person-trips represent 146 additional vehicle trips (99 inbound and 47 outbound).

Two scenarios were evaluated for the intersection operating conditions analysis: the Existing Roadway Scenario and the Garage and Revised Roadway Scenario. The Existing Roadway Scenario assumes the existing roadway configuration at the study intersection would be maintained. The Garage and Revised Roadway Scenario includes the garage under Block 202 and the extension of Davis Street between Washington and Clay Streets. Under both future scenarios, the addition of project-generated traffic would result in minimal changes in the average vehicle delay at the study intersections. Therefore, no significant impacts to local intersections are expected upon implementation of the proposed project.

The proposed project would generate approximately 77 weekday PM peak hour transit trips (25 inbound and 52 outbound). These additional trips would not substantially affect the capacity of MUNI or the regional transit carriers serving the project site.

The project would generate a total parking demand for about 72 spaces on weekdays and 99 spaces on weekends. The project would not provide off-street parking spaces, and thus there would be a shortfall of between 72 and 99 parking spaces. The unmet parking demand would not be considered a significant environmental effect, given the emphasis in the *General Plan* on public transit use. A parking shortfall is also anticipated with the development of approved projects in the project area and under cumulative conditions (there would be a shortfall of about 650 spaces). The existing off-street facilities in the project vicinity are effectively operating at capacity during the weekday midday peak period, and would not be able to accommodate a substantial number of the project unmet demand in the area. In addition, there would additional traffic congestion due to drivers circling around to find available parking. If the Port of San Francisco garage is built under Block 202, some additional parking spaces would be available to accommodate the parking demand generated by the Butterfly Discovery Park, as well as demand generated by the approved projects and other existing uses in the area.

The project would displace motorcycle and vehicle parking on Drumm Street between Clay and Washington Streets, which would further increase the demand for parking at the off-street facilities. As an improvement measure, the San Francisco Department of Parking and Traffic (DPT) should consider relocating the motorcycle parking spaces to another location. A potential location would be a portion of the Davis Street extension between Washington and Clay Streets (DPT anticipates on-street parking to be provided on both sides of the street).

The addition of project-generated pedestrian traffic would not substantially affect conditions at the study locations. The pedestrian analysis assumes the construction of the pedestrian bridge between the two buildings. If the bridge is not constructed, there would be additional pedestrians at the crosswalks crossing Drumm Street at both Clay and Washington Streets; the level of service at the north crosswalk during peak hours would be slightly lower, but the crosswalk would still operate acceptably.

The addition of the project-generated vehicle and pedestrian trips and the construction of the garage under Block 202 would result in potential conflicts between vehicles and pedestrians. The extension of Davis Street, which would include signalization of the intersection, and the proposed pedestrian bridge would substantially reduce the potential for conflicts in this area. The impact to traffic and pedestrian conditions as a result of the garage would be less than significant, with or without the proposed pedestrian bridge.

Bicycle access to the area would not change substantially with the development of the project. In addition, the project would provide bicycle accommodations, including showers, lockers, and secured bicycle spaces (between 30 and 60 spaces in the landscaped park area).

The proposed project would provide one off-street freight loading space within each of the buildings. The proposed loading spaces would meet the *Planning Code* requirements for freight loading and service vehicle spaces, and would be sufficient to accommodate the anticipated loading demand.

There may be peak periods of demand during which the four bus loading spaces provided by the projec would not be sufficient to accommodate the demand, which may result in the double parking of buses on Drumm Street. In order to reduce the potential for traffic disruptions and other conflicts due to the double-parking of buses along Drumm Street and other nearby streets, the project sponsor has agreed to be responsible for advance identification of all aspects of passenger loading needs for all group tours, which would be allowed only through advance reservations. In addition, the project sponsor would be responsible for obtaining a permit from the Department of Parking and Traffic to bag parking meters at curbs near the project site when needed.

Two off-site bus parking areas would be made available to groups using buses to transport visitors to the project site. Potential off-site layover areas for the buses between drop-off and pick-up times that have been identified by the project sponsor include Bauer's Limousine, Pier 27, SF Tour Guide at Fisherman's Wharf, Pier 30/32, the PacBell Ballpark parking lot, and the 3 Com Park stadium parking lot.

If the passenger loading/unloading zone on Drumm Street is utilized for bus layover while groups are visiting the Butterfly Discovery Park, there could be double-parking of buses on Drumm Street, with associated impacts as noted previously. Improvement measures to ensure that the passenger areas are available for loading/unloading and that double-parking does not occur on Drumm Street would be pursued by the project sponsor:

- Active monitoring of drop-off and pick-up activities;
- Bagging of meters on the west curb of the Davis Street Extension and north curb of Washington Street during peak tour periods; and
- Providing bus parking on a portion of the planned Davis Street extension.

Other actions that should be explored by the DPT to address tour bus parking for downtown facilities include:

- Converting a portion of the on-street parking spaces on the west side of The Embarcadero between Washington Street and the Ferry Building to tour bus parking; and

- Exploring converting portions of City-owned lots for tour bus parking.

Even if these measures can not be implemented or are not successful, the double parking, congestion, and inconveniences associated with passenger loading would be of limited duration and would only occur from time to time. For these reasons, unmet loading demand would in this case not be considered a significant environmental effect.

Drivers dropping off passengers would have a total of 11 spaces when the four bus parking spaces are utilized for buses. These spaces would generally be sufficient to accommodate the demand. The proposed visitor waiting areas would also be sufficient to accommodate the anticipated demand.

Construction-period transportation impacts, including slower movement of traffic in the project area, could occur but would not be considered significant because they would be temporary. The project sponsor and construction contractors would meet with the Traffic Engineering Division of the DPT, the Fire Department, MUNI, and the Planning Department to determine feasible measures to reduce traffic congestion, including potential transit disruption and pedestrian circulation impacts during construction of the proposed project. The temporary parking demand by construction workers would need to be met on site or within other off-site parking facilities. The contractor would need to determine the location of an off-site parking facility for construction workers during the construction period.

Future Year 2015 Cumulative traffic volumes were based on the work effort for the Alternatives to Replacement of the Embarcadero Freeway and the Terminal Separator Structure Project and the Transbay Terminal Redevelopment Area Plan Transportation Report study. Under both future scenarios in 2015, average vehicle delays are projected to increase from existing conditions at the study intersections, but all signalized intersections would operate at LOS D or better. The intersection of Clay Street and Davis Street would be signalized under the Garage and Revised Roadway Scenario and would operate at satisfactory levels of service. Therefore, the project would not result in significant cumulative impacts.

The project-generated transit trips would have a minimal contribution the cumulative transit ridership, and alone would not substantially affect the peak hour capacity utilization of each screenline. Therefore, the project contribution to cumulative transit impacts would be less than significant. Changes in pedestrian or bicycle travel would not result in cumulative impacts.

Construction activities associated with the proposed project would likely occur at the same time as other ongoing and proposed projects in the vicinity of the project site. In combination, the potential simultaneous construction of these projects may result in temporary increased congestion in the area, plus inconveniences to motorists, pedestrians and transit patrons. In order to reduce the combined effect of these construction impacts, each individual project sponsor would work with various departments of the City (Department of Parking and Traffic, MUNI, the Fire Department, etc.) to develop a detailed and coordinated plan that would address construction vehicle routing, traffic control and pedestrian movements on specific streets in the construction area.

B3. Visual Quality

The Initial Study, published on December 3, 1999, determined that the project would have no negative aesthetic effects and would not result in any impacts related to landform modification or light or glare. The EIR focuses on impacts related to the obstruction or alteration of scenic views and the removal of trees.

Three viewpoints of the project site from publicly-accessible areas adjacent to the site were selected for analysis. These viewpoints were determined by San Francisco Planning Department staff to be representative views of the site from off-site locations. All the selected viewpoints provide short-range views of the site; no long range views were evaluated because the project site is not visible from any distant publicly-accessible locations due to intervening buildings. The locations of the selected viewpoints are from the west side of The Embarcadero looking southwest, from Drumm Street looking south, and from the 9th floor of the One Maritime Plaza office tower looking east.

The project would not substantially alter or block scenic vistas from public viewpoints. The height of the museum and learning center would be substantially lower than the existing adjacent high-rise office buildings, and the trees in the northern portion of Block 203 would serve as a buffer between the townhomes north of the site and the proposed museum buildings.

The proposed project, in combination with projects undertaken by the City, would result in the removal of a substantial proportion of the existing trees. However, the tree removal would not substantially alter or block secure vistas from public viewpoints, and the visual buffer provided by the prominent trees in the central northern portion of Block 203 would remain. For these reasons, the visual impact of tree removal would be less than significant.

B4. Air Quality and Shadow

B4(a) Air Quality

The Initial Study, published on December 3, 1999, concluded that the project would result in no impact or a less-than-significant impact with respect to construction emissions, odors and toxics, and wind. As such, these topics are not discussed in the EIR. Impacts related to shadow were also found to be less-than-significant in the Initial Study, and in addition the proposed buildings would not be tall enough to be subject to Proposition K requirements. However, because the project site includes and is adjacent to public open spaces, a shadow analysis was conducted for informational purposes.

Operational emissions associated with the development of the proposed project would result primarily from vehicular trips to and from the project site. The proposed project would generate average daily direct and indirect emissions that would not exceed the BAAQMD recommended threshold for individual projects. Therefore, the project's operational emissions would not be considered significant.

Although all of the study intersections currently operate (and would continue to operate) at a satisfactory level of service, CO modeling was conducted for local intersections near the project area. The results indicate that under worst case conditions, CO concentrations at the study intersections would not exceed State 1-hour or 8-hour CO standards with the proposed project.

Cumulative impacts were based on an evaluation of the consistency of the project with the *San Francisco General Plan* and of the *General Plan* with the 2000 Clean Air Plan. The City and County of San Francisco has established land use and transportation policies in the *San Francisco General Plan* that are intended (among other purposes) to improve air quality in San Francisco and thus, the *General Plan* is consistent with the 2000 Clean Air Plan. In addition, the project includes several features to reduce vehicle emissions. These measures would help to minimize the increase in vehicle miles traveled (VMT) attributable to the project and would be consistent with transportation and air quality objectives and polices of *the San Francisco General Plan.* Therefore, the cumulative air quality impacts would not be considered significant.

B4(b) Shadow

In general, the proposed museum and learning center buildings would add a relatively small amount of new shadow to the open space on Blocks 202 and 203, the most extensive of which would occur during the winter solstice when shadow lengths are greatest. Based on the annual shadow fan conducted for the proposed project, some new shadow could also be cast on the very northern portion of Justin Herman Plaza. No new shadow from the project would be cast on the Maritime Plaza open space or on the residential buildings of the Golden Gateway Center. Given the extensive shadow already present from the existing high-rise buildings adjacent to the site, and the fact that the project would be exempt from provisions of the Planning Code Section 295, which applies to building over 40 feet in height, shadow impacts from the proposed project would not be substantial.

C. MITIGATION MEASURES

The following mitigation measures are from the Initial Study (See Appendix 1.0) and are proposed as part of the project.

The EIR identified the loss of publicly accessible open space as a significant environmental impact. No feasible mitigation measures are identified for the impact associated with the loss of open space.

C1. Noise

1. If pile driving is necessary to install pile foundations, the project sponsor would require its contractors to pre-drill holes to the maximum depth feasible on the basis of soil conditions. Contractors would be required to use construction equipment with state-of-the-art noise shielding and muffling devices. The project sponsor would also require its contractors to schedule pile driving activity for times of the day that would be consistent with the Noise Ordinance.

C2. Air Quality

2. In accordance with the BAAQMD *CEQA Guidelines*, the project sponsor would require the contractor to implement the following dust control measures: a) Water all active construction areas at least twice daily; b) Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard; c) Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites; d) Sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas at construction sites; and e) Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets.

C3. Water Quality

The project sponsor would ensure that groundwater from site dewatering and stormwater runoff meets the discharge limitations of the City's Industrial Waste Ordinance by carrying out the following:

3. If dewatering were necessary, the project sponsor would follow the recommendations of the geotechnical engineer or environmental remediation consultant, in consultation with the Bureau of Environmental Regulation and Management of the San Francisco Public Utilities Commission, regarding treatment, if any, of pumped groundwater prior to discharge to the combined sewer system.

If dewatering were necessary, groundwater pumped from the site would be retained in a holding tank to allow suspended particles to settle, if this were found to be necessary by the Bureau of Environmental Regulation and Management of the San Francisco Public Utilities Commission to reduce the amount of sediment entering the combined sewer system.

C4. Cultural Resources

4. The project sponsor would retain an archaeologist to conduct a detailed literature search and a pre-excavation testing program to evaluate the probability of finding buried historic archaeological remains within the portion of the site proposed for development. If, after a literature search and testing, the archaeologist determines that no further investigations or precautions are necessary to safeguard potentially significant archaeological resources, the archaeologist would submit a written report to the Environmental Review Officer, with a copy to the project sponsor. If the archaeologist determines that further investigations or precautions are necessary, he or she would consult with the Environmental Review Officer, and they would jointly determine what additional procedures are necessary to minimize potential effects on archaeological resources.

   These additional measures would be implemented by the project sponsor and could include a program of on-site monitoring of all site excavation, during which the archaeologist would record observations in a permanent log. The monitoring program, whether or not there are findings of significance, would result in a written report to be submitted first and directly to the Environmental Review Officer, with a copy to the project sponsor. During the monitoring program, the project sponsor would designate one individual on site as its representative. This representative would have the authority to suspend work at the site to give the archaeologist time to investigate and evaluate archaeological resources if they are encountered.

   If evidence of historic archaeological resources of potential significance were found during the monitoring program, the archeologist would immediately notify the Environmental Review Officer, and the project sponsor would halt any activities that the archaeologist and the Environmental Review Officer jointly determine could cause damage to such cultural resources.

   After notifying the Environmental Review Officer, the archaeologist would prepare a written report to be submitted first and directly to the Environmental Review Officer, with a copy to the project sponsor, which would contain an assessment of the potential significance of the find and recommendations for what measure should be implemented to minimize potential effects on archaeological resources. Based on this report, the Environmental Review Officer would recommend specific additional measures to be implemented by the project sponsor. These additional measures could include a site security program, additional on-site investigations by the archaeologist, or documentation, preservation, and recovery of cultural material.

Finally, the archaeologist would prepare a report documenting the cultural resources that were discovered, an evaluation as to their significance, and a description as to how any further archaeological testing, exploration, or recovery program is to be conducted.

D. ALTERNATIVES

In compliance with CEQA requirements, a range of reasonable alternatives to the proposed project were assessed. The alternatives were developed by identifying those impacts that could be substantially avoided or reduced through an alternative, and determining the modifications that would be needed. The only significant impact that could be avoided through modifications to the project on site is the land use impact related to the loss of open space.

D1. Alternative 1: No Project Alternative

Under the No Project Alternative, the proposed project would be built on Blocks 202 and 203. The existing PUC pump station, pedestrian pathways, seating areas, and gazebo would not be demolished as part of the project.

If this alternative were implemented, none of the impacts associated with the project would occur. Blocks 202 and 203 would continue to be used as public open space. In addition, a text amendment to the *General Plan* to allow the proposed project within the Public Open Space designation would not be required.

This alternative would not generate additional traffic and would not change transit or parking demand, conditions with respect to pedestrians or bicyclists, or create any needs with respect to freight loading, or result in any construction impacts. Alternative 1 would not result in any significant visual impacts or change the use of the project site and thus views of the site would not change. In addition, implementation of this alternative would not result in any significant impacts related to operational emissions or localized carbon monoxide emissions.

D2. Alternative 2: On-Site, Block 202

Alternative 2 would retain a design for Block 202 similar to that proposed for the project. Under this alternative, however, Block 203 would not be part of the project site. For this EIR, it is assumed that the uses would be similar to those proposed for the project (entrance/ticketing/lobby, exhibit space, the butterfly conservatory, food service, a gift shop, and an off-street loading facility). It is also assumed that, similar to the proposed project, attendance would be approximately 400,000 visitors yearly.

Under this alternative, the significant impact related to the loss of open space would be reduced but not eliminated, given that development would occur only on Block 202 and not on Block 203. The use surveys conducted for this EIR (summarized in Section 3.1, Land Use, Zoning, and Plan Consistency) indicate that Block 202 is used more than Block 203 by people sitting and by those engaged in active recreational activities. Therefore, this alternative would not substantially lessen the potential impacts to the open space use of the site, and the impacts would remain significant.

The proposed project would not result in any significant traffic impacts related to the level of service at local intersections. The number of visitors would be the same under this alternative, and thus the traffic impacts would be similar to those described for the proposed project. Similarly, Alternative 2 would result in similar (less-than-significant) impacts with respect to transit and parking demand, pedestrians and bicyclists, freight and passenger loading, off-site bus parking and construction. However, development on Block 202 only would reduce the curb space that would be available for passenger drop off and pick up.

The proposed project would not result in any significant visual impacts. Under Alternative 2, views of Block 203 would not change from current conditions. The change in views of Block 202 would be the same as described for the proposed project. Trees on Block 203 would not be removed as the result of Alternative 2, but would be removed as part of project to be undertaken by the City.

Under this alternative, air quality impacts related to project operation would be the same as for the proposed project, and would be less than significant. Construction air quality impacts would be the same during the time that the Phase I building is developed, but would not occur during the time that the Phase II building would be developed as part of the proposed project. The proposed project would not result in any significant shadow impacts; Alternative 2 would not result in the addition of shadow to Block 203.

D3. Alternative Sites Considered and Rejected

The Main and Spear Streets site in the South of Market District of San Francisco was rejected as an infeasible site because it would not be large enough to accommodate the proposed buildings or proposed open space areas.

Three alternative sites studied in the *M.H. deYoung Memorial Museum Site Selection Study* (1997) were considered; the Tranbay District site, a site at Broadway and The Embarcadero, and a site at

Golden Gate Park. The sites were rejected because they would not be available for development of the Butterfly Discovery Park.

The No Project Alternative would be the environmentally superior alternative. CEQA requires that when the No Project Alternative is chosen, an environmentally superior alternative be chosen among the development alternatives. Therefore, Alternative 2 would be the environmentally superior alternative.

E. UNRESOLVED ISSUES AND AREAS OF CONTROVERSY

The project would result in the conversion of a downtown open space to a developed use. Although this conversion would have a limited impact on the users and viewers in the immediate vicinity, the impact has been conservatively identified as unavoidably significant. The loss of open space that would result from the project would also conflict with the land-use planning for the project site and vicinity.

The EIR analysis is based on conceptual project building designs, which may be refined during the design process. The refinements are not expected to be of a magnitude that would involve new significant impacts or necessitate additional environmental analysis. Any proposed changes in design would be subject to review, and a determination regarding the necessity for additional analysis pursuant to CEQA Guidelines Section 15162.

2.0 PROJECT DESCRIPTION

A. PROJECT LOCATION

As shown in **Figure 2.0-1, Project Site Location**, the project site is located in the Financial District of downtown San Francisco, on a portion of a 230,550-square-foot (5.29-acre) site consisting of Assessor's Blocks 202 and 203.

Block 202, which has an area of approximately 126,150 square feet, is bounded by The Embarcadero on the east, Washington Street on the north, the Four Embarcadero Center loading driveway on the south, and Drumm Street on the west. Block 202 contains a large open turf area, paved paths, clusters of trees, and a gazebo/sitting area.

Block 203, which has an area of approximately 104,400 square feet, is bounded by Drumm Street on the east, Washington Street on the north, Clay Street on the south, and the unimproved Davis Street right-of-way on the west. This block currently contains turf areas, trees, a pedestrian path between Clay and Washington Streets, a non-operating one-story pump station, and elevated decks and a pedestrian bridge connecting to the Maritime Plaza podium-level open space area to the west (known as Alcoa Plaza). On one of the decks leading to the pedestrian bridge is a sculpture entitled "Movement: The First 100 Years," which was given to the people of the United States on May 19, 1983 by the Korea-USA Centennial Committee of the Republic of Korea, to commemorate the 100th anniversary of the ratification of the Treaty of Peace, Amity, Commerce and Navigation.

The Clay and Washington Street ramps of the elevated Embarcadero Freeway formerly passed over the southern portion of Block 202 and touched down at Block 203. The Embarcadero Freeway was demolished in 1991 as a result of damage sustained during the 1989 Loma Prieta earthquake.

The site is owned by the City and County of San Francisco, with ownership divided among the Public Utilities Commission, the Recreation and Park Department, and the Department of Real Estate. The 1,750-square-foot pump station building is within a 7,150-square-foot maintenance yard in the northeast corner of Block 203, under the jurisdiction of the San Francisco Public Utilities Commission (the pump station was formerly under the jurisdiction of the Department of Public Works). The remainder of Block 203 is often referred to as Embarcadero Plaza II and is under the jurisdiction of the Department of Real Estate. The northern three-fifths of Block 202, dedicated open space under the jurisdiction of the Recreation and Park Department, is referred to as Embarcadero Plaza I. The balance of Block 202 is under the jurisdiction of the Department of Real Estate. The Department of Real Estate property was transferred to the City from the State Department of Transportation following demolition of the Clay and Washington Street ramps to/from the Embarcadero Freeway. The ownership boundaries on the project site are shown in **Figure 2.0-2, Existing Ownership Boundaries.**

The existing zoning for Blocks 202 and 203 is P (Public) with an OS (Open Space) height and bulk district. The entire site is designated as Public Open Space in the Recreation and Open Space Element of the San Francisco *General Plan.*

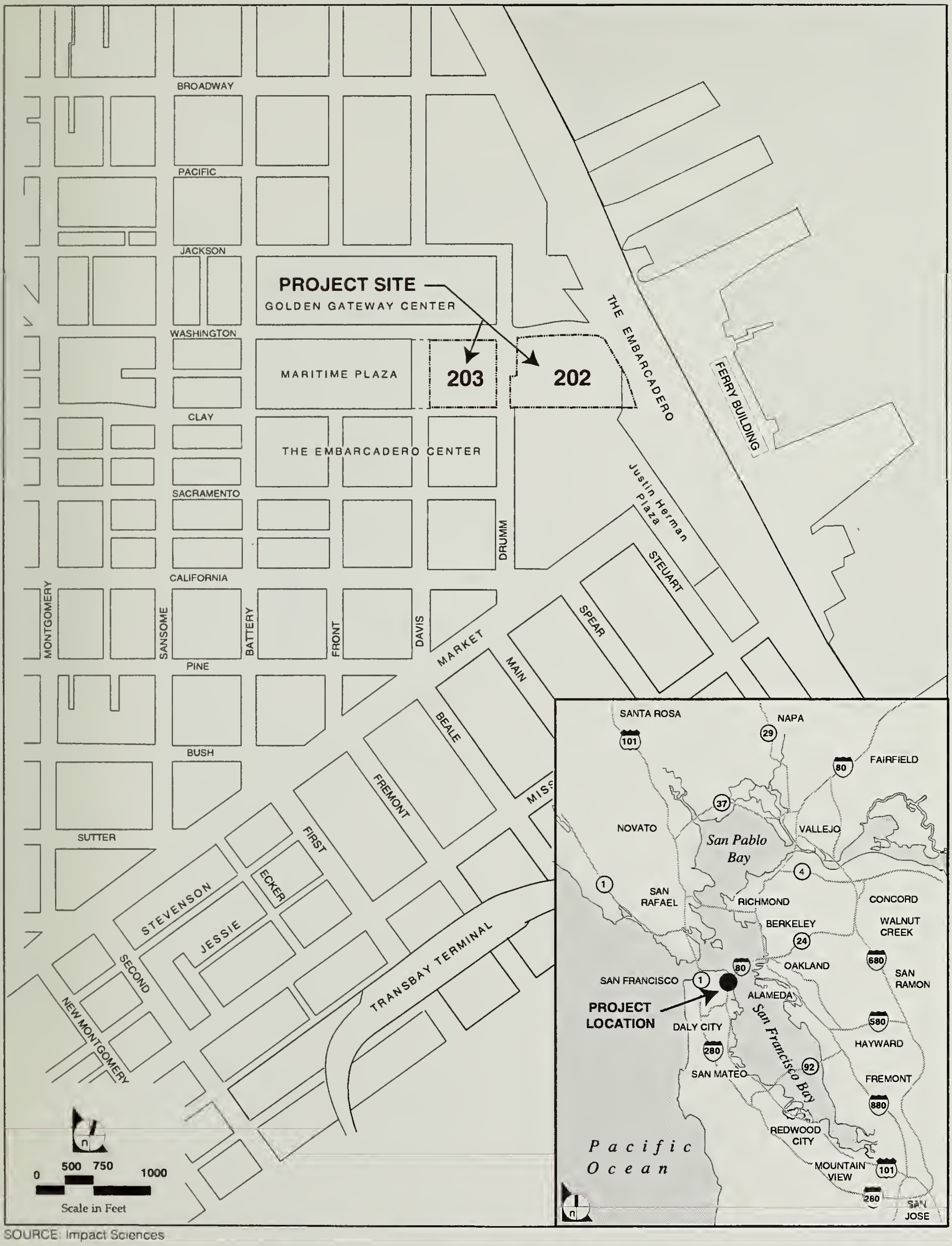
Land uses adjacent to the project site include the Three and Four Embarcadero Center buildings and Justin Herman Plaza to the south, the Maritime Plaza office complex to the west, the Golden Gateway Center (William Heath Davis residential tower and Golden Gateway Tennis and Swimming Club) to the north, and The Embarcadero roadway to the east. On the bay side of The Embarcadero directly east of the project site is a pedestrian walkway known as Herb Caen Way (formerly the Embarcadero Promenade), Pier 1, and the Ferry Terminal building.

B. PROJECT CHARACTERISTICS

The proposed project involves the construction of a museum and learning center on Blocks 202 and 203. **Figure 2.0-3, Project Site Plan, Phase I** and **Figure 2.0-4, Project Site Plan, Phase II,** illustrate the proposed site plan. As shown, the museum and learning center would consist of two separate buildings, one in the southern portion of each block, connected by a pedestrian bridge over Drumm Street. The proposed building on Block 202 would be constructed on the southern portion of this block and would not encroach into the area of Block 202 under the jurisdiction of the Recreation and Park Department. **Table 2.0-1, Proposed Land Uses,** shows the breakdown of proposed uses by block.

The Phase I building would be constructed on Block 202. This building, consisting of approximately 65,000 gross square feet, would house the entrance/ticketing/lobby, exhibit and educational facilities, the butterfly conservatory, food service, a gift shop, and an off-street loading facility. The Phase II building on Block 203 would contain additional exhibit space and classrooms, meeting rooms, a library, and administrative facilities.

The proposed buildings would be two to three stories, with heights ranging from 30 to 40 feet. The design of the proposed buildings is still in a conceptual stage. According to the project sponsor the development would include the features described as follows.



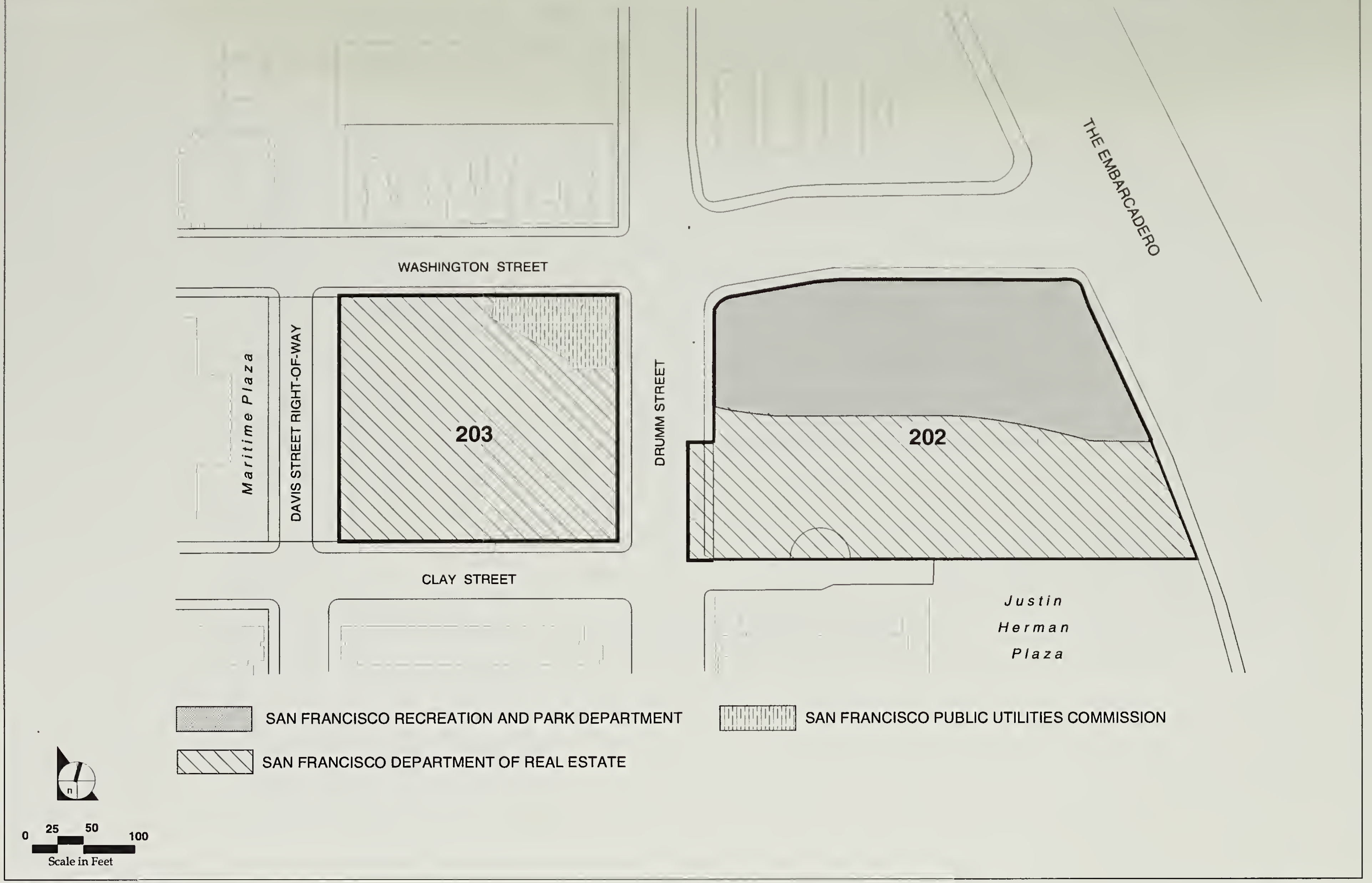
SOURCE: Impact Sciences

FIGURE 2.0-1

Project Site Location

394-01•11/99

BUTTERFLY DISCOVERY PARK

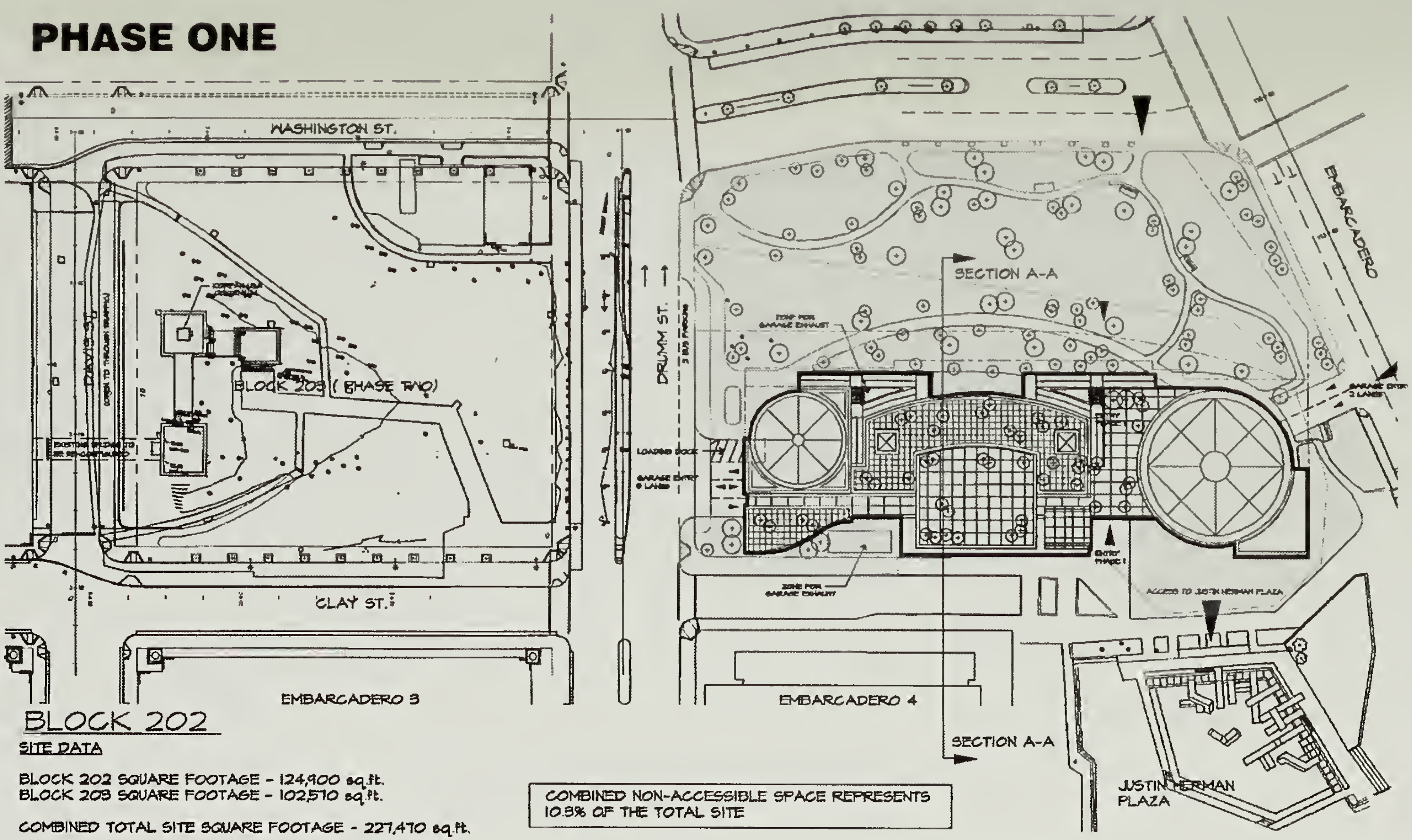

THE EMBARCADERO
WASHINGTON STREET
DRUMM STREET
CLAY STREET
DAVIS STREET RIGHT-OF-WAY
Maritime Plaza
Justin Herman Plaza
203
202
SAN FRANCISCO RECREATION AND PARK DEPARTMENT
SAN FRANCISCO PUBLIC UTILITIES COMMISSION
SAN FRANCISCO DEPARTMENT OF REAL ESTATE
n
0
25
50
100
Scale in Feet

SOURCE: Impact Sciences

FIGURE **2.0-2**

Existing Ownership Boundaries

PHASE ONE



BLOCK 202

SITE DATA

BLOCK 202 SQUARE FOOTAGE - 124,900 sq.ft.
BLOCK 203 SQUARE FOOTAGE - 102,570 sq.ft.

COMBINED TOTAL SITE SQUARE FOOTAGE - 227,470 sq.ft.

BUILDING FOOTPRINT BLOCK 202 - 34,211.76 sq.ft.
BUILDING FOOTPRINT BLOCK 203 - 21,638.49 sq.ft.

COMBINED TOTAL BUILDING FOOTPRINT - 55,850.25 sq.ft.

NON-ACCESSIBLE SPACE BLOCK 202 - 14,306.46 sq.ft.
NON-ACCESSIBLE SPACE BLOCK 203 - 9,217.28 sq.ft.

COMBINED NON ACCESSIBLE SPACE - 23,523.74 sq.ft.

OPEN TERRACE BLOCK 202 - 19,905.30 sq.ft.
OPEN TERRACE BLOCK 203 - 9,9195.64 sq.ft

COMBINED OPEN TERRACE SPACE - 29,100.94 sq.ft.

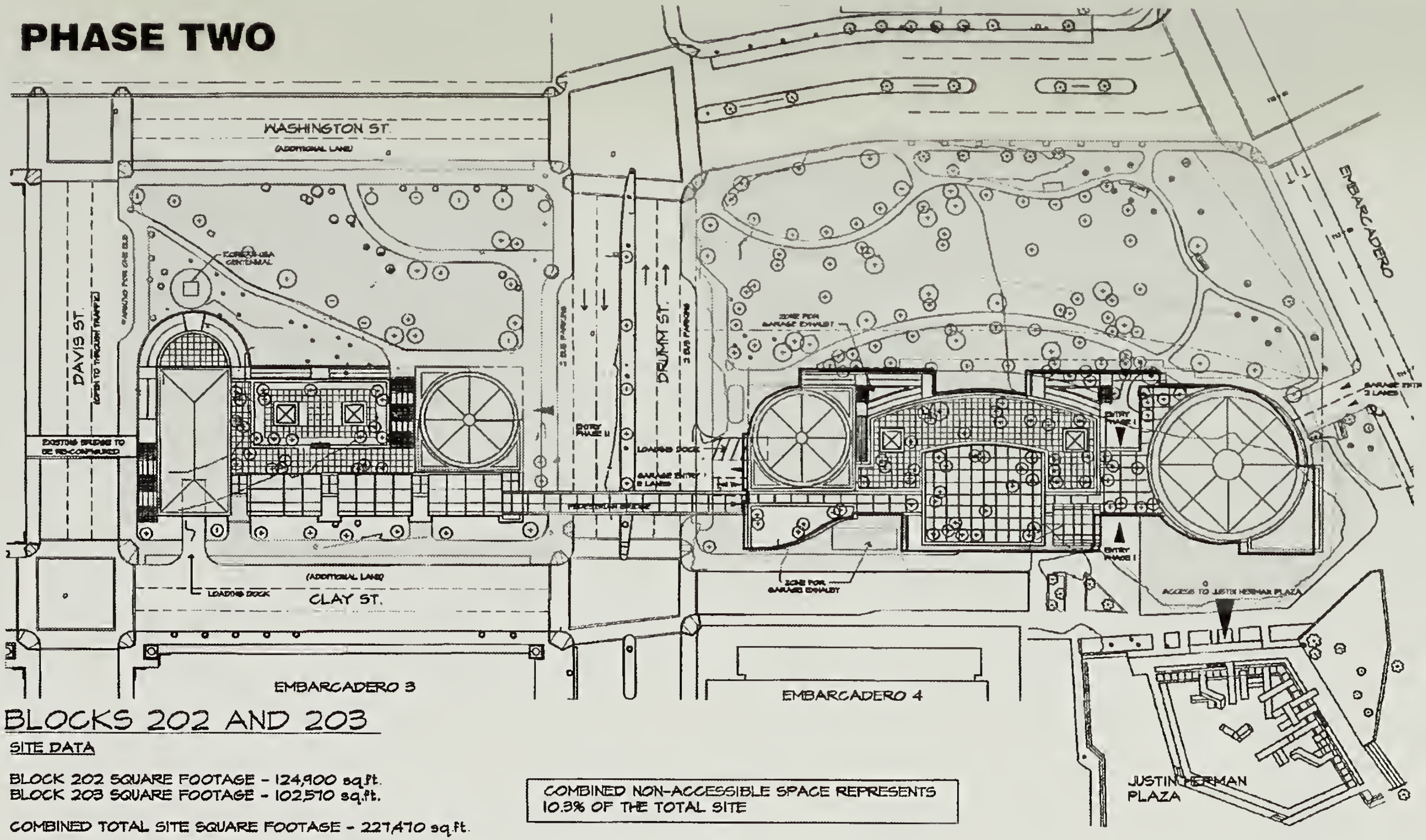
COMBINED NON-ACCESSIBLE SPACE REPRESENTS
10.3% OF THE TOTAL SITE

SOURCE: Gerson/Overstreet Architects

FIGURE 2.0-3

Project Site Plan, Phase I

PHASE TWO



COMBINED NON-ACCESSIBLE SPACE REPRESENTS
10.3% OF THE TOTAL SITE

BLOCKS 202 AND 203

SITE DATA

BLOCK 202 SQUARE FOOTAGE - 124,900 sq.ft.
BLOCK 203 SQUARE FOOTAGE - 102,570 sq.ft.

COMBINED TOTAL SITE SQUARE FOOTAGE - 227,470 sq.ft.

BUILDING FOOTPRINT BLOCK 202 - 34,211.76 sq.ft.
BUILDING FOOTPRINT BLOCK 203 - 21.638.49 sq.ft.

COMBINED TOTAL BUILDING FOOTPRINT - 55,850.25 sq.ft.

NON-ACCESSIBLE SPACE BLOCK 202 - 14,306.46 sq.ft.
NON-ACCESSIBLE SPACE BLOCK 203 - 9,217.28 sq.ft.

COMBINED NON ACCESSIBLE SPACE - 23,523.74 sq.ft.

OPEN TERRACE BLOCK 202 - 19,905.30 sq.ft.
OPEN TERRACE BLOCK 203 - 9,9195.64 sq.ft

COMBINED OPEN TERRACE SPACE - 29,100.94 sq.ft.

SOURCE: Gerson/Overstreet Architects

FIGURE **2.0-4**

Project Site Plan , Phase II

Table 2.0-1
Proposed Land Uses

Proposed Use	Area (Square Feet)
Block 202 (Phase I)	
Entrance/Ticketing/Lobby	7,000
Butterfly Conservatory	10,000
Exhibit and Educational Facilities	31,000
Administration	5,000
Food Service and Retail	6,000
Other	6,000
Subtotal	65,000
Block 203 (Phase II)	
Exhibit Space	40,000
Educational Facilities	16,000
Administration	12,000
Members' Meeting Facilities	4,000
Storage	5,000
Other	8,000
Subtotal	85,000
Total Building Floor Area	150,000
Total Building Footprint	58,000

Source: Butterfly Discovery Park
Note: All square footage numbers are gross.

The most prominent feature would be the 40-foot-high glass butterfly conservatory on the east side of the Phase I building; the conservatory would be connected to a two-story building. The proposed buildings would be steel framed with the exterior finished material being stone–like and glazed elements to achieve interiors that are light and airy. The main entrance to each of the proposed buildings (Phases I and II) would face Drumm Street. When viewed from the north, the facades of the proposed buildings would be broken into segments to decrease the horizontal mass of the structures.

To the maximum extent feasible, vegetation would be planted in close proximity to the buildings, while meeting United States Department of Agriculture (USDA) construction requirements (see below), and without affecting the structural integrity of the proposed buildings. Landscaped roof gardens would be incorporated into the building design. The roof gardens would be accessible to the public during museum and learning center hours. Seating for public use would be incorporated into the exterior building walls facing the dedicated open space.

Table 2.0-1 shows a breakdown of the proposed museum and learning center uses by general category. The museum and learning center interior would consist of theaters, classrooms, interactive displays, electronic simulations and games, informational exhibits, and live insect exhibits, along with food service (including a cafe) and a gift shop. Live insect exhibits would include an insect petting zoo, a firefly display, an ant colony display, and the butterfly conservatory. The butterfly conservatory would consist of a domed glass greenhouse room designed to simulate a tropical rainforest environment.

The buildings would be built to conform to USDA construction standards for educational displays of nonindigenous and native California insects, spiders and other invertebrates; these standards include design features that minimize the risk of escape of the enclosed insects. In addition, operation of the live insect displays would require that the museum and learning center adhere to USDA guidelines requiring sterilization or decontamination equipment to kill any invertebrates or microorganisms on contaminated or infested articles and would require the installation of an autoclave (a machine, much like a large pressure cooker, that relies on a chamber of high temperature and pressure to sterilize laboratory equipment) in the pupa holding room, along with the use of alcohol and bleach solutions in insect killing jars.

The Butterfly Discovery Park would operate seven days per week. The operating hours would be from 10:00 AM to 6:00 PM PST Friday through Wednesday and from 10:00 AM to 8:00 PM PDT Thursday and during certain holidays. The initial hours of operation may be shorter. There would also be approximately 125 to 150 special evening and weekend events each year. The proposed café would be open from 10:00 AM to 10:00 PM Sunday through Thursday and from 10:00 AM to 11:00 PM on Fridays and Saturdays. The café would not be directly accessible from the street.

According to the project sponsor, attendance is expected to be approximately 420,000 visitors in the first year, with a sustainable annual attendance of around 400,000 thereafter. It is anticipated that approximately 20% of the annual visitors would be group visits consisting of 30 to 50 persons in each group. It is expected that the majority of the group visitations would be school children and would occur during off-peak periods between September and May. The last group tour would begin at approximately 2:00 PM each day. Attendance for special evening events would range from 100 to 500 persons per event.[1]

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[1] Butterfly Discovery Park, memorandum to Impact Sciences, dated August 24, 1999.

According to the project sponsor, the Butterfly Discovery Park would employ an equivalent of about 38 permanent full-time employees after completion of Phase I, and an additional 17 permanent full-time employees after completion of Phase II. During the summer period there would be additional part-time employees.

The western portion of the proposed Phase II museum and learning center building would be built in the location of the elevated decks and sculpture on Block 203. The sculpture would be relocated within the open space under the jurisdiction of the Recreation and Park Department. The pedestrian bridge to Maritime Plaza would be retained and incorporated into the Phase II building design. Development of Phase II would involve removal of the Public Utilities Commission pump station building and maintenance yard on Block 203. The area occupied by the pump station would be landscaped and included in the open space portion of the project.

B1. Landscaping

Upon completion of both Phase I and Phase II of the project, the proposed building footprints would occupy approximately 58,000 square feet of Blocks 202 and 203. Landscaped areas would generally be located to the north of the museum and learning center buildings, fronting on Washington Street. The northern three-fifths of Block 202, dedicated open space under the jurisdiction of the Recreation and Park Department, would remain open space.

If desired by the City, the project sponsor would re-landscape the remaining open space areas on or adjacent to the site to be compatible with the museum and learning center use. This might include pedestrian paths with pocket sitting areas throughout the softscape areas. The locations of the pedestrian paths would be similar to those currently in use. Although a specific landscape plan has not yet been designed, the project sponsor has begun a detailed study of the type of plant materials to be used. The plants to be selected would be mainly indigenous plants to create pocket habitats, which would attract butterflies and other human-friendly insects to the area while creating a neighborhood park setting for relaxation and learning. To the maximum extent feasible, drought-resistant plants would be used. An irrigation system would be included in the landscaping plan. In addition, the rooftop terraces of both Phase I and Phase II buildings would be landscaped using large potted trees and other plants in full compliance with USDA requirements; these terraces would be accessible to the public.

B2. Access and Circulation

The project site is bounded by Washington Street on the north, Clay Street and the Four Embarcadero

Center loading driveway on the south, The Embarcadero on the east, and the Davis Street right-of-way on the west. Drumm Street bisects the site, from north to south, separating Blocks 202 and 203. The City will extend Davis Street through the site to connect Washington and Clay Streets; the Department of Parking and Traffic's (DPT) current schedule for the project is mid 2001. The proposed project reflects the extension of Davis Street, but could be accomplished whether or not Davis Street is extended.

The proposed Butterfly Discovery Park would involve the development of structures on both blocks, with the main entrances to each building located on Drumm Street (the main entrance to the Phase I building on Block 202 would serve as the primary visitor entrance). The project does not propose any on-site automobile parking spaces. The project sponsor will request the Department of Public Works to designate about 260 feet of white passenger loading zone in front of the entrance to the building on the west side of Drumm Street, and about 160 feet of passenger loading zone in front of the entrance to the building on the east side of Drumm Street. On both the east and west curbs, the northern 100 feet would be set aside for buses only, and would accommodate a total of four buses. The project sponsor would request school bus operators to drop off the school children and return to their yard on Toland Street, and then return to pick up the children at a specified time. The project sponsor would make arrangements for tour bus parking off-site, at a location to be determined.

The proposed project would provide one off-street freight loading space within each of the buildings. Off-street loading for the Phase I (Block 202) building would be provided off of Drumm Street north of Clay Street. Off-street loading for the Phase II (Block 203) building would be provided off of Clay Street east of Davis Street.

The Port of San Francisco and other San Francisco City agencies have proposed the construction of a 340 to 450-space parking garage under Block 202. These spaces are intended to be used to help satisfy the Planning Code parking requirements for the Ferry Building rehabilitation project, and as mitigation for the 423 parking spaces that have been lost due to reconstruction of The Embarcadero. At this time, the status of the proposed garage on Block 202 is uncertain.

The project sponsor would provide five secured bicycle parking spaces for its employees inside the Phase I building, and three secured bicycle parking spaces in the Phase II building. Bicycle racks to accommodate 30 to 60 bicycles would be interspersed near the sidewalks around the project site to accommodate visitors to the facility and the public open space; the specific locations of these racks would be identified in the landscaping plan. Within the landscaped portions of the site, pedestrian walkways would be provided linking to the sidewalks along Washington, Clay, and Drumm Streets, the extended Davis Street, The Embarcadero, and Justin Herman Plaza. On Block 203, the existing pedestrian bridge to the Maritime Plaza would be incorporated into the Phase II design. The project sponsor is proposing an enclosed pedestrian bridge across Drumm Street linking the upper levels of the Phase I building on Block 202 and the Phase II building on Block 203 to avoid pedestrian and vehicular conflict and to ensure the safety of visiting children. Although the bridge has not been designed yet, the materials used would be consistent with the proposed museum and learning center buildings. The bridge span would be about 150 feet long; the bottom of the bridge would rise approximately 15.5 feet above street level, and the top of the bridge would be approximately 28 feet above street level.

B3. Foundation and Grading

The most likely foundation for the project would be a structural mat foundation system at or near grade. A total of approximately 2,000 cubic yards of earthwork would be required for each project phase, with an average depth of excavation of about 1.5 feet. The largest amount of excavation would occur on Block 203, for construction on and around the raised topography currently supporting the elevated deck structures. If the City decides to construct a parking garage under Block 202, excavation would be carried out for the garage, and thus would not be required for the proposed Phase I building.

B4. Tree Removal

A total of 194 trees are currently present on Blocks 202 and 203. About 53 existing trees on the site would be removed for development of Phases I and II. Depending on the drip lines of trees near the proposed buildings, additional trees may be removed. None of the trees proposed to be removed would have a diameter larger than four inches. On Block 202, a total of 21 trees would be removed for construction of the Phase I building. On Block 203, a total 32 trees would be removed for construction of the Phase II building. Projects to be undertaken by the City would result in the removal of 6 trees on Block 202 for the reconfiguration of the Embarcadero/Washington Street intersection, 13 trees on Block 202 as a result of improvements to The Embarcadero roadway and 15 trees for the extension of Davis Street. The remaining trees on Blocks 202 and 203 would be preserved.

B5. Schedule and Phasing

The project is proposed to be constructed in two phases. Phase I would consist of the development of a 65,000 square foot building on Block 202, including the butterfly conservatory, exhibit areas, gift shop, cafe, and outdoor landscaping. Phase II would involve the development of a 85,000 square foot building on Block 203, including additional exhibit space, classrooms, a library, offices, and a members' lounge.

Construction of Phase I is anticipated to begin in the Fall of 2003, and would take 30 months to complete. The estimated construction cost of the Phase I building would be approximately $15,000,000. Construction of the Phase II building is anticipated to begin in 2010, and would be completed in 30 months. The estimated construction cost of the Phase II building would be approximately $19,500,000.[2]

C. PROJECT SPONSOR'S OBJECTIVES

According to the Project Sponsor, the general objectives of the Butterfly Discovery Park project include the following:

- To develop a facility that will provide the inspiration and motivation for conservation of biological diversity;
- To create a center to provide new educational approaches to entertainment and informal learning that will highlight fundamental ecology principles as well as their technological and social implications;
- To support research on the conservation of invertebrates, in consultation and partnership with local academic institutions such as UC Berkeley, Stanford University, San Francisco State University, and the California Academy of Sciences;
- To develop a facility with landscaping, buildings and the roof gardens that continue the park-like setting and add visual interest from nearby high-rise buildings;
- To develop a project that will enhance the area with minimal environmental disruption; and
- To complete the project on schedule and within budget.

D. APPROVALS REQUESTED

Following publication of the Draft EIR, a public hearing and 45-day public review period will be held. Responses to comments received on the Draft EIR will be prepared after the close of the public review period. The Final EIR will consist of the Draft EIR and the responses to comments. The Final EIR will be presented to the Planning Commission for certification as to its accuracy, objectivity, and completeness. No discretionary project approvals may be granted or permits issued until the FEIR has been certified. After certification of the FEIR, the proposed project would require the following approval requests:

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[2] Construction cost for building shell space is based on $230 per square foot.

1. Amendment to the Recreation and Open Space Element of the *General Plan;*
2. Approval of a Planned Unit Development and Conditional Use Authorization;
3. *General Plan* referral for a major encroachment permit for the proposed pedestrian bridge;
4. Approval of the encroachment permit application for a pedestrian bridge by the Board of Supervisors;
5. Building Permit and Demolition Permit Applications; and
6. Other approvals.

Pursuant to Proposition M, the Planning Commission would also be required to determine that the project is consistent with the City's Priority Policies. These approval actions are described further below.

D1. General Plan Amendment

The project site is designated as Public Open Space in the Recreation and Open Space Element of the San Francisco *General Plan*, with specific objectives and policies pertaining to the site contained in the Northeastern Waterfront Area Plan. The project sponsor may need to propose a text amendment to the *General Plan* to allow the proposed museum and learning center use within the Public Open Space land use designation. A *General Plan* amendment requires approval by the Planning Commission and Board of Supervisors.

D2. Conditional Use Authorization

The site is zoned P (Public), with an OS (Open Space) height and bulk district on the Zoning Map of the San Francisco Planning Code. The designations apply to areas with transportation facilities, parks, and government office buildings and reflect the site's former use as freeway ramps and current use as open space. Under Section 234.2 of the Planning Code, the institutional uses listed in Section 209.3 (d) of the Planning Code – "social service or philanthropic facilities providing assistance of a charitable or public service nature and not of a profit making or commercial nature" – are conditional uses within a Public Use District. The project sponsor has obtained a determination from the Zoning Administrator that the project falls under Sections 209.3 (d) and 234.2, and could be developed as a conditional use under the P District.

The project sponsor will submit an application for a planned unit development and conditional use authorization for the proposed project, since it will be constructed on two adjacent blocks on a site in excess of one-half acre. In addition, the project sponsor will landscape the area remaining under the City's jurisdiction. At this time, as part of the request for a planned unit development, the project sponsor will request deviation from the off-street parking requirements of the Planning Code. As the environmental review process and further design development proceed, there may by other requested deviations from the Planning Code quantitative standards. After a public hearing, the Planning Commission may approve or disapprove the planned unit development and conditional use application. The Planning Commission action may be appealed to the Board of Supervisors within 30 days.

D3. Other Approvals Requested

The proposed pedestrian bridge would require a major encroachment permit. The encroachment permit application is required to be referred to the City Planning Department for findings of consistency with the *General Plan*. For the proposed project, the encroachment permit application would be the subject of a public hearing before the Planning Commission.

If the Planning Commission finds that the encroachment permit application for the pedestrian bridge is consistent with the *General Plan*, the Department of Public Works would hold a public hearing on this application if requested by an interested party. If the Director of Public Works recommends approval of this encroachment permit application, an ordinance would be drafted and presented to the Board of Supervisors for public hearing and action.

The building permit applications for the proposed project cannot be approved by the Department of Building Inspection until after the conditional use authorization becomes final. Issuance of a building permit application may be appealed to the Board of Appeals within 15 days of its issuance.

If the project sponsor is responsible for the demolition of the existing pump station building, a demolition permit application must be applied for and approved by the Department of Building Inspection. Issuance of a demolition permit may be appealed to the Board of Appeals within 15 days of its issuance.

Because the proposed project would be located on publicly-owned property, the design of the proposed buildings and the pedestrian bridge would require review by the Art Commission.

Relocation of the sculpture "Movement: The First 100 Years" within the open space portion of the project site would require approval by the Art Commission.

The landscaping plan of the public open space under the jurisdiction of the Recreation and Park

Department would be subject to review and approval by the Recreation and Park Commission.

Curb cut for the off-street loading facility would require a minor encroachment permit.

Street improvement plans and planting of street trees would require approval by the Department of Public Works.

D4. Priority Policy Consistency

In November 1986, the voters of San Francisco approved Proposition M, the Accountable Planning Initiative, which added Section 101.1 to the City Planning Code to establish eight Priority Policies. These policies are: preservation and enhancement of neighborhood-serving retail uses; protection of neighborhood character; preservation and enhancement of affordable housing; discouragement of commuter automobiles; protection of industrial and service land uses from commercial office development and enhancement of resident employment and business ownership; maximization of earthquake preparedness; landmark and historic building preservation; and protection of open space. Prior to issuing a permit for any project which requires an Initial Study under CEQA, and prior to issuing a permit for any demolition, conversion, or change of use, and prior to taking any action which requires a finding of consistency with the General Plan, the City is required to find that the proposed project or legislation is consistent with the Priority Policies.

D5. Property Lease and Management Agreement

The applicant would lease part of the property under Department of Real Estate and Department of Public Utilities Commission jurisdiction, with ownership of all facilities reverting to the City at the end of the lease. The Board of Supervisors would have the authority to approve, modify or disapprove the terms of the lease. For those portions of the project site that are under the jurisdiction of the Recreation and Park Department, the applicant proposes to execute a management agreement that would allow them to maintain the land under Recreation and Park Department jurisdiction.

E. INTENDED USES OF THIS EIR

This EIR addresses the potential impacts that may result from development of the proposed project described in this chapter. The EIR is intended to serve primarily as a source of information for the City and County of San Francisco, which is the Lead Agency for the proposed project. As defined by CEQA, a Lead Agency is the public agency with the principal responsibility for reviewing a project.

The Draft EIR will be circulated to all City Departments with approval authority over portions of the proposed project for their comments. All Boards and Commissions that must act on the proposed project must review the FEIR prior to acting on this project.

3.0 EXISTING CONDITIONS AND PROJECT IMPACTS

A. PURPOSE

The purpose of this section is to inform readers of the type and magnitude of the project's environmental impacts. This section provides a detailed description of existing conditions on the project site and in the vicinity, an evaluation of the impacts of the project, and an analysis of cumulative impacts. The discussion of existing conditions defines the environmental conditions that currently exist on and near the project site. Project impacts are defined as the project's effect on the existing environment. Technical topics addressed in this EIR were defined by the San Francisco Planning Department after completion and circulation of an Initial Study, in compliance with CEQA. (See Appendix 1.0 for the Initial Study.)

A. LAND USE AND ZONING

A1. Existing Land Use

As discussed in **Chapter 2.0, Project Description**, and shown in **Figure 2.0-1, Project Site Location**, the project site is located in the Financial District of downtown San Francisco, on a 230,550-square-foot (5.29-acre) site consisting of Assessor's Blocks 202 and 203. The surrounding area is an urban downtown, and contains a mix of high-rise office and residential towers with ground floor commercial/retail uses, low-rise residential townhouses, and water transit uses on the nearby waterfront.

Block 202 contains a large turf area, paved walking paths, groups of trees, and a gazebo/sitting area. Block 203 also contains turf areas, trees, and paved pedestrian walkways. The northeast corner of Block 203 contains a 1,750-square-foot pump station building (non-operating) within a 7,150-square-foot maintenance yard. In the western portion of Block 203, a walkway leads up to an elevated deck area and a pedestrian bridge connecting to the Maritime Plaza podium-level open space area to the west (known as Alcoa Plaza). On one of the decks is a sculpture entitled "Movement: The First 100 Years," which was given to the people of the United States on May 19, 1983 by the Korea-USA Centennial Committee of the Republic of Korea, to commemorate the 100th anniversary of the ratification of the Treaty of Peace, Amity, Commerce and Navigation. The sculpture was designed by Choi Man Lin.

The Clay and Washington Street ramps of the elevated Embarcadero Freeway formerly passed over the southern portion of Block 202 and touched down at Block 203. The Embarcadero Freeway was demolished in 1991 as a result of damage sustained during the 1989 Loma Prieta earthquake. The site is owned by the City and County of San Francisco, with jurisdiction divided among the Public Utilities Commission, the Recreation and Park Department, and the Department of Real Estate. The maintenance yard in the northeast corner of Block 203 is under the jurisdiction of the San Francisco Public Utilities Commission (the pump station was formerly under the jurisdiction of the Department of Public Works). The remainder of Block 203 is often referred to as Embarcadero Plaza II and is under the jurisdiction of the Department of Real Estate. The northern three-fifths of Block 202, dedicated open space under the jurisdiction of the Recreation and Park Department, is referred to as Embarcadero Plaza I. The balance of Block 202 is under the jurisdiction of the Department of Real Estate. The Department of Real Estate property was transferred to the City from the State Department of Transportation following demolition of the Clay and Washington Street ramps to/from the Embarcadero Freeway. The ownership boundaries on the project site are shown in **Figure 2.0-2, Existing Ownership Boundaries.**

Land uses adjacent to the project site are depicted in **Figure 3.1-1, Site and Surrounding Land Uses.** North of Block 202 is the Golden Gateway Tennis and Swimming Club, a membership club with tennis courts, swimming pools, a fitness center, a basketball court, and off-street parking. North of Block 203 is the eastern portion of the Golden Gateway Center, a mixed-use residential neighborhood consisting of four high-rise apartment towers, two-story townhomes, ground- and mezzanine-level commercial businesses, and underground parking. The William Heath Davis residential tower and townhouses are located immediately north of Block 203.

South of Block 202 are Justin Herman Plaza and the Four Embarcadero Center building. Justin Herman Plaza is a City-owned park of approximately 3.6 acres located along the west side of The Embarcadero. Justin Herman Plaza contains brick paved areas, scattered landscaping (trees, shrubs and a small turf area), a reflecting pool and free-form sculpture (the Vaillancourt Fountain), and an open-air stage. Outdoor tables and seating areas are provided adjacent to a cluster of ground-level restaurants and cafes within Four Embarcadero Center.

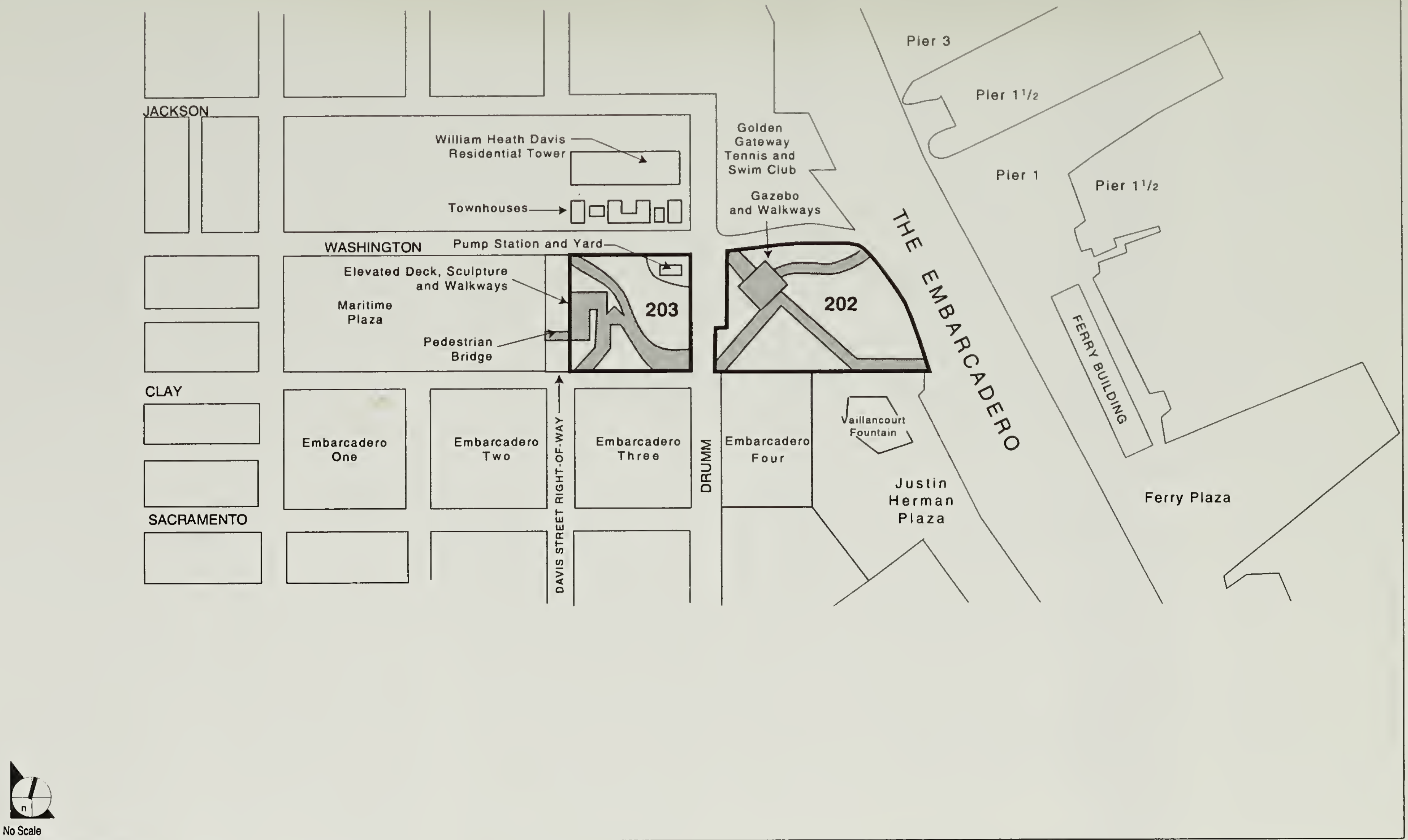
The Embarcadero Center extends west of Justin Herman Plaza, and consists of two hotels and six high-rise office towers with ground- and mezzanine-level shops and restaurants. The various uses of the Embarcadero Center are connected by street-level and elevated walkways, terraces, and plazas. The Four Embarcadero Center building is located directly south of Block 202, and contains restaurants and cafes at the street level, retail shops on the second floor, and office uses above. South of Block 203 is the Three Embarcadero Center building, which also contains ground- and mezzanine level retail shops and upper level office uses.

To the west of Block 203 is the One Maritime Plaza office complex, consisting of a high-rise office tower and two single-story plaza-level office buildings. A pedestrian bridge connects the elevated decks on Block 203 to a podium-level open space area within One Maritime Plaza known as Alcoa Plaza.

To the east of Block 202 is The Embarcadero, an arterial roadway that runs along the Bay between Fisherman's Wharf and the South Beach area. On the east side of The Embarcadero is a pedestrian walkway known as Herb Caen Way (formerly the Embarcadero Promenade). Various pier buildings extend into the Bay along The Embarcadero; Pier 1 and the Ferry Terminal building are to the east of the project site.

A1(a) Use Survey

In order to characterize the various uses of the project site, an observational survey of pedestrian activity was conducted. Counts were taken during morning (9:30 to 10:00 AM), lunch hour (12:30 to 1:30 PM) and evening (4:00 to 4:30 PM) time periods. Counts were made of all pedestrian activities occurring during 15- minute intervals for each block, with activities broken down into the following general categories: sitting, walking through site, jogging, bicycling and skating (skateboarding or in-line skating).



SOURCE: Impact Sciences

FIGURE 3.1-1

Site and Surrounding Land Uses

Table 3.1-1
Site Use Survey Results

	Block 202			Block 203		
	AM	Lunch Hour	PM	AM	Lunch Hour	PM
Walking Through Site	30	149	27	52	114	177
Sitting	6	22	14	2	11	8
Resting on Lawn	10	8	6	1	4	5
Jogging	1	7	3	0	1	2
Bicycling	2	3	2	6	0	6
Skating	0	2	7	0	0	3
Other Active Recreation	0	0	3	0	0	0
TOTAL	*49*	*191*	*62*	*61*	*130*	*201*

Source: Impact Sciences
Notes:
AM counts taken 9:45-10:00 A.M on Block 202 and 10:00-10:15 AM on Block 203.
Lunch Hour counts taken 12:30-12:45 PM on Block 202 and 12:45-1:00 PM on Block 203.
PM counts taken 4:30-4:45 PM on Block 203 and 4:45-5:00 PM on Block 202.

As shown in **Table 3.1-1, Site Use Survey Results**, the majority of people on either block at a given time were walking through the site. Block 202 was most heavily used for walking during the lunch hour, with a substantial number of people traveling between Justin Herman Plaza and the intersection of Drumm/Washington Streets. (At the time of the survey, the perimeter pathway on Block 202 along The Embarcadero had been removed for construction of the Mid-Embarcadero Roadway project.) Block 203 was used heavily for walking during both the lunch and evening periods, with the majority of people using the pedestrian path along the Davis Street right-of-way. Walkers remained on each block an average of two to three minutes, most of them walking at a relatively brisk pace.

During the lunch hour, the second-largest user group on Block 202 consisted of people sitting and eating lunch. Most were office workers, and many had food that had been purchased at one of the restaurants or cafes located in the Embarcadero Center. The most popular places to sit during the lunch hour were the benches and low walls beneath and around the gazebo, and the low knoll in the lawn area. On Block 203, the elevated decks were utilized by both office workers and bicycle couriers during the lunch hour. Few people were observed sitting on the lawn on Block 203, most likely due to the fact that it was substantially more shaded and cooler than the sunny lawn on Block 202.

Active recreational users of the site included joggers, bicyclists, in-line skaters, and skateboarders. A group of in-line skaters performed tricks on the low walls and benches beneath the gazebo on Block 202; these individuals were present on site throughout the observation period. During all three periods, one or more bicycle couriers were observed sitting around the elevated decks on Block 203. The lawn areas were generally not used for active recreation, although during the PM period on Block 202 two men were observed kicking a soccer ball around some plastic cones, and a man was observed tossing a ball to his dog. No active recreational activities were observed on the lawn areas on Block 203, possibly due to the smaller amount of open grass area and large number of trees. Since the time of the survey, a volleyball court erected on Block 202 during the summer months was observed.

A2. Existing Zoning

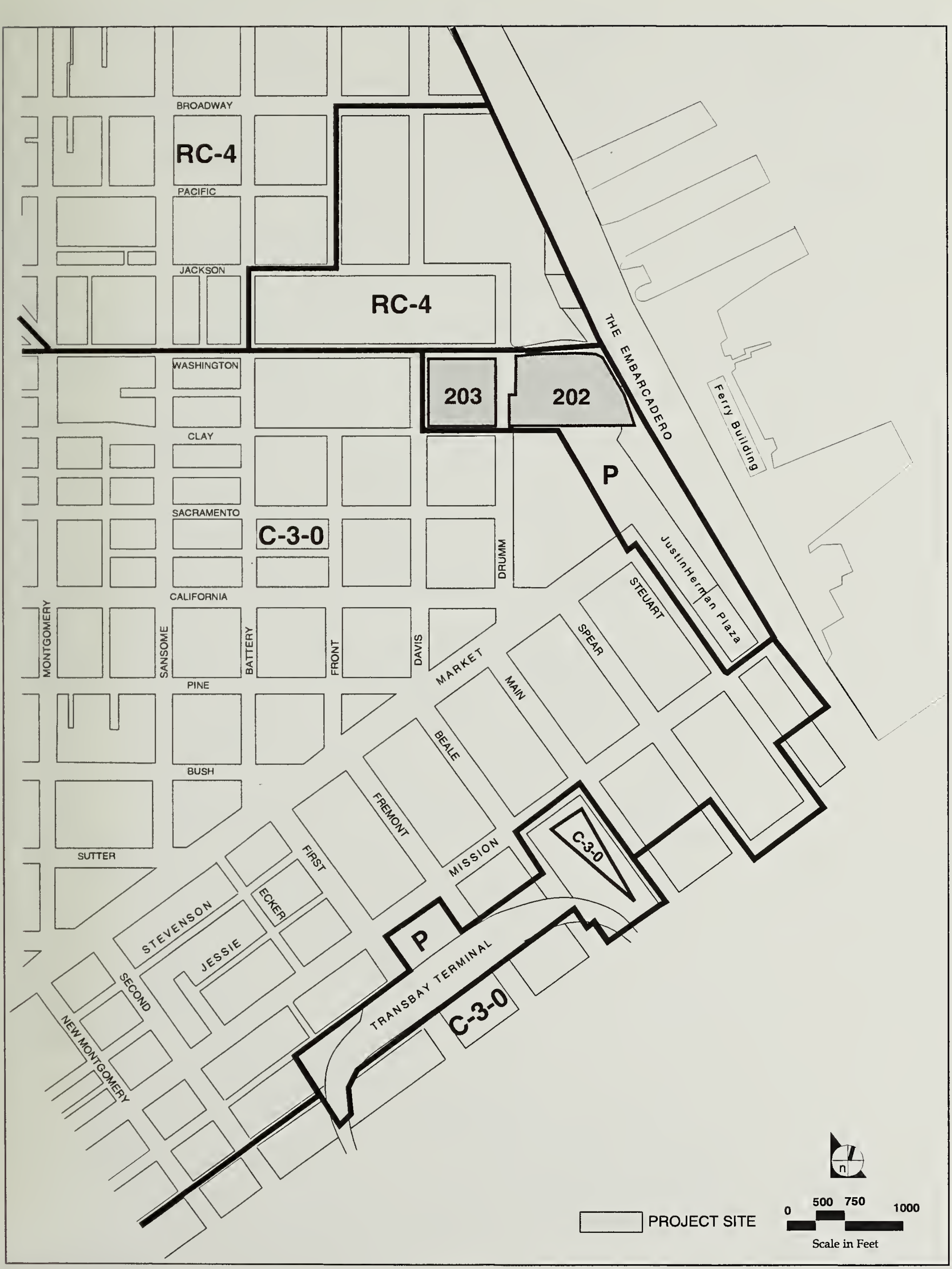
As shown in **Figure 3.1-2, Existing Zoning**, the site is designated as P (Public Use District). As discussed in Section 234 of the Planning Code, this designation applies to land that is owned by a governmental agency and in some form of public use, such as transportation facilities, parks, and government office buildings. This designation reflects the project site's former use as freeway ramps and current use as open space.

Under Section 234.2 of the Planning Code, the institutional uses listed in Section 209.3 (d) of the Planning Code – "social service or philanthropic facilities providing assistance of a charitable or public service nature and not of a profitmaking or commercial nature" – are conditional uses within a Public Use District. The project sponsor has obtained a determination from the Zoning Administrator that the project falls under Sections 209.3 (d) and 234.2, and could be developed as a conditional use under the P District. Development of the project would require approval of a conditional use permit by the Planning Commission.

As shown in **Figure 3.1-3, Existing Height and Bulk District**, the height and bulk district for the site is OS (Open Space District). As stated in Section 290 of the Planning Code, "the inclusion of land in Open Space Districts is intended to indicate its principal or exclusive purpose as open space, with future development of any character strictly limited." In areas designated OS, the height and bulk of structures are to be determined in accordance with the objectives, principles, and policies of the San Francisco *General Plan*, and no building or structure shall be permitted unless in conformity with the *General Plan.*

B. PLAN CONSISTENCY

The project site is designated as Public Open Space in the Recreation and Open Space Element of the *General Plan*. The site is located within the area addressed by the Northeastern Waterfront Area Plan. Some key policies and objectives from the *General Plan* relevant to the project are listed below; others may be addressed during the project approval process. The project site is adjacent to, but outside, the boundary of the Downtown Area Plan. However, because of its location adjacent to the Embarcadero Center and Maritime Plaza, the site currently provides open space opportunities for individuals working



SOURCE: Impact Sciences

FIGURE 3.1-2

Existing Zoning

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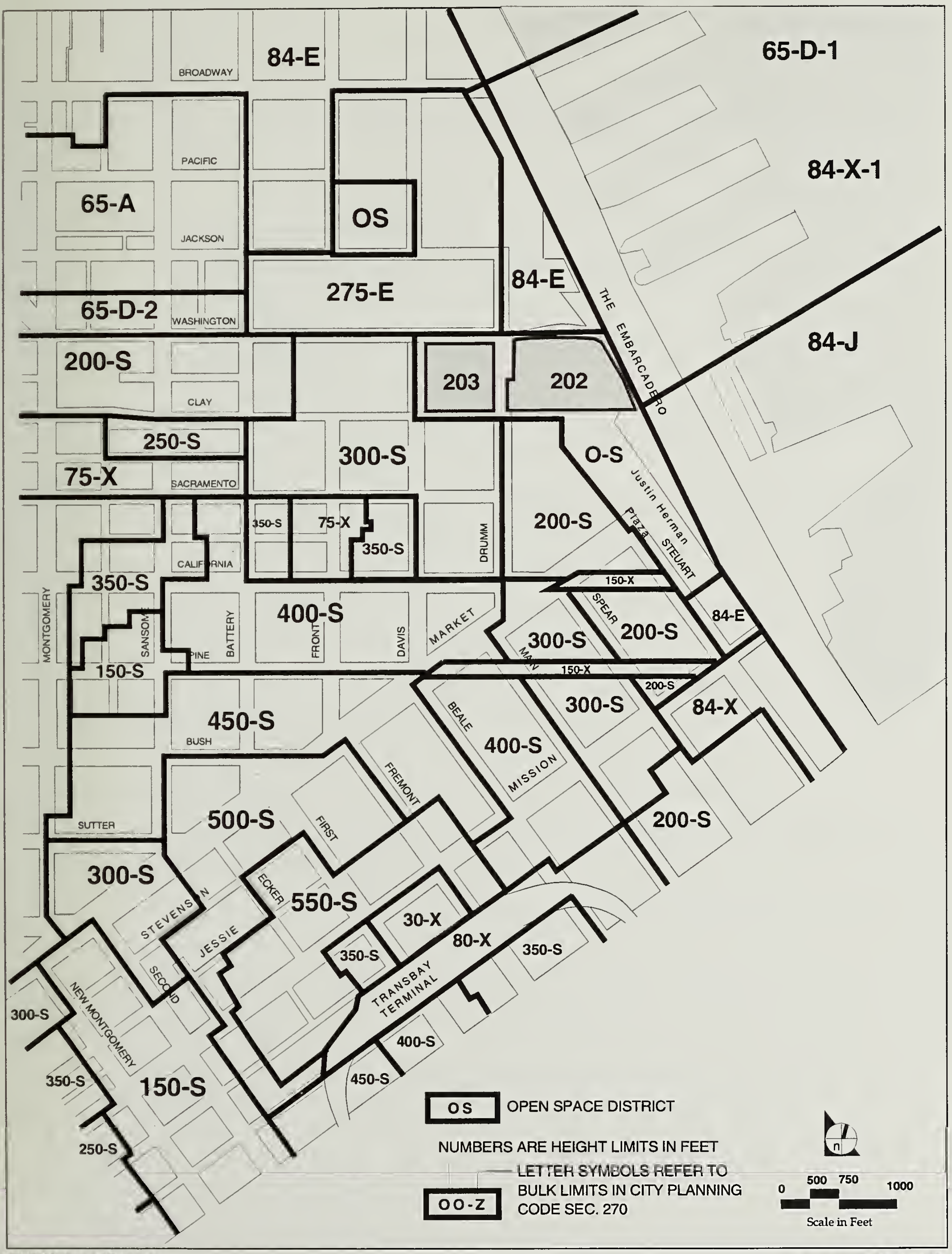
BUTTERFLY DISCOVERY PARK



SOURCE: Impact Sciences

FIGURE 3.1-3

Existing Height and Bulk District

in those office complexes. For this reason, applicable policies of the Downtown Area Plan related to open space are also included.

B1. Recreation and Open Space Element

- Objective 1: Preserve large areas of open space sufficient to meet the long-range needs of the Bay Region.
    - Policy 2: Make open space lands already in public ownership accessible to the public for compatible recreational uses.
- Objective 2: Develop and maintain a diversified and balanced citywide system of high quality public open space.
    - Policy 1: Provide an adequate total quantity and equitable distribution of public open spaces throughout the City.
    - Policy 2: Preserve existing public open space.
    - Policy 3: Preserve sunlight in public open spaces.
    - Policy 4: Gradually eliminate non-recreational uses in parks and playgrounds and reduce automobile traffic in and around open spaces.

B2. Urban Design Element

- Objective 1: Emphasis of the characteristic pattern which gives to the City and its neighborhoods an image, a sense of purpose, and a means of orientation.
    - Policy 1: Recognize and protect major views in the City, with particular attention to those of open space and water.
- Objective 2: Conservation of resources which provide a sense of nature, continuity with the past, and freedom from overcrowding.
    - Policy 2: Limit improvements in other open spaces having an established sense of nature to those that are necessary, and unlikely to detract from the primary values of the open space.
    - Policy 8: Maintain a strong presumption against the giving up of street areas for private ownership or use, or for construction of public buildings.
    - Policy 9: Review proposals for the giving up of street areas in terms of all the public values that streets afford.

- Objective 3: Moderation of major new development to complement the City pattern, the resources to be conserved, and the neighborhood environment.
  - Policy 4: Promote building forms that will respect and improve the integrity of open spaces and other public areas.
- Objective 4: Improvement of the neighborhood environment to increase personal safety, comfort, pride and opportunity.
  - Policy 8: Provide convenient access to a variety of recreational opportunities.
  - Policy 14: Remove and obscure distracting and cluttering elements.

B3. Downtown Area Plan

- Objective 4: Enhance San Francisco's role as a tourist and visitor center.
  - Policy 1: Guide the location if new hotels to minimize their adverse impacts on circulation, existing uses, and scale of development. (Although the wording of Policy 1 refers to "hotels," the explanatory text addresses both hotels and other visitor-oriented uses. The proposed project falls within the scope of "other visitor-oriented uses."
- Objective 9: Provide quality open space in sufficient quantity and variety to meet the needs of downtown workers, residents, and visitors.
  - Policy 2: Provide different kinds of open space downtown.

B4. Northeastern Waterfront Plan

The Northeastern Waterfront Plan contains a comprehensive set of goals, policies, and guidelines to "create a physical and economic environment in the Northeastern Waterfront area which will use the area's resources and potential in the manner which will best serve the needs of the San Francisco community." The Northeastern Waterfront Plan area is divided into four subareas; the project site is located within the Ferry Building Subarea, which extends roughly from Pier 5 south to Rincon Park.

- Objective 1: To develop and maintain activities that will contribute significantly toward the City's economic vitality and provide additional activities which strengthen the predominant uses in each sub-area of the Northeastern Waterfront, while limiting their concentration to preserve the environmental quality of the area.

- Objective 2: To diversify uses in then Northeastern Waterfront, to expand the period of use of each sub-area and to promote maximum public use of the Waterfront while enhancing its environmental quality.
  - Policy 2: Diversify activities to encourage use of the Northeastern Waterfront by a broad spectrum of the population.
- Objective 7: To strengthen and expand the recreation character of the Northeastern Waterfront and to develop a system of public open spaces and recreation facilities that recognizes its recreational potential, provides views, water and sky, and public accessibility to the water's edge.
  - Policy 1: Develop recreation facilities attractive to residents and visitors of all ages and income groups.
  - Policy 4: Encourage and provide open space and public recreation facilities as part of any development, to provide facilities for people residing and working in the Northeastern Waterfront and adjoining neighborhoods.
  - Policy 7: Where desirable and feasible, provide amenities which enhance public enjoyment of open spaces and public access areas by providing public restrooms, drinking fountains, information kiosks, sales of refreshments from push carts, and other services.
- Objective 8: To facilitate the movement of people and goods within the Northeastern Waterfront in such a way as to minimize the adverse impact of this movement.
  - Policy 2: Limit additional parking facilities in the Northeastern Waterfront and minimize the impact of this parking. Discourage long-term parking for work trips which could be accommodated by transit. Restrict additional parking to: (a) Short-term (less than four hour) parking facilities to meet needs of additional business, retail, restaurant, marina, and entertainment activities; (b) Long-term parking facilities for maritime activities, hotel and residential uses. To the extent possible, locate parking away from areas of intense pedestrian activity. Encourage shared parking at adjacent or nearby facilities.
- Objective 10: To develop the full potential of the Northeastern Waterfront in accord with the unusual opportunities presented by its relation to the bay, to the operating port, fishing industry, and downtown; and to enhance its unique aesthetic qualities offered by water, topography, views of the city and bay, and historic maritime character.
  - Policy 14: Design open spaces to maximize sun exposure, wind protection, noise buffering, and to create a sense of security.
  - Policy 27: Locate buildings to minimize shadows and wind on public open spaces.

Ferry Building Subarea

- Objective 21: To develop a mixture of uses which will provide a transition between the intense concentration of office activity in the downtown area and the recreation activities of the waterfront, which will generate activity during evenings and weekends to complement the weekday office uses in the adjacent downtown area.

B5. General Plan Consistency and Accountable Planning Initiative

The Planning Commission and other City decision makers would evaluate the proposed project against the objectives and policies of the *General Plan*, and would consider potential conflicts with the *General Plan* as part of the decision making process. This consideration of *General Plan* objectives and policies is carried out independently of the environmental review process, as part of the decision to approve, modify, or disapprove a proposed project. Any potential conflicts with provisions of the *General Plan* that would cause physical environmental impacts have been evaluated as part of the impact analysis carried out in other topical sections of this EIR and in the Initial Study.

In November 1986, the voters of San Francisco approved Proposition M, the Accountable Planning Initiative, which added Section 101.1 to the City Planning Code to establish eight Priority Policies. These policies are: preservation and enhancement of neighborhood-serving retail uses; protection of neighborhood character; preservation and enhancement of affordable housing; discouragement of commuter automobiles; protection of industrial and service land uses from commercial office development and enhancement of resident employment and business ownership; maximization of earthquake preparedness; landmark and historic building preservation; and protection of open space. Prior to issuing a permit for any project which requires an Initial Study under CEQA, and prior to issuing a permit for any demolition, conversion, or change of use, and prior to taking any action which requires a finding of consistency with the General Plan, the City is required to find that the proposed project or legislation is consistent with the Priority Policies.

B6. Golden Gateway Redevelopment Plan

The northerly half of Block 202 is within the Embarcadero-Lower Market (Golden Gateway) Redevelopment Plan Area, established by the San Francisco Redevelopment Agency. Established initially to eliminate and prevent the spread of blight in the vicinity of lower Market Street and adjacent areas, the Golden Gateway Redevelopment Plan was adopted in 1959 and has been fully implemented, including the construction of 1,400 residential units to the north of the project site. Other types of uses permitted by the Redevelopment Plan include Downtown Commercial-Office and Open Space. Block 203 and the southern portion of Block 202 are not within the Golden Gateway Redevelopment Area.

B7. Port of San Francisco Waterfront Land Use Plan

The Waterfront Land Use Plan was adopted by the Port Commission in June 1997. The Waterfront Plan sets forth land use policies for all property under the jurisdiction of the Port of San Francisco, which are consistent with the Port's public trust responsibilities and the City's Northeastern Waterfront Plan. The Waterfront Land Use Plan includes general land use policies for maritime uses, open space and public access, residential and commercial uses, other uses and interim uses, and identifies unacceptable non-maritime land uses. A small triangular area within The Embarcadero and near the eastern boundary of Block 202 is under the jurisdiction of the Port. According to Port staff, this piece of property is not considered a developable area for any project on Block 202 since it is within The Embarcadero.[1] Block 203 is entirely outside the jurisdiction of the Port of San Francisco. The Waterfront Land Use Plan does not contain any policies specifically related to the project site; however, the Plan notes the connection between open space improvements in the vicinity of the Ferry Building and the open space that includes Justin Herman Plaza and the project site.

C. PLANNED AND APPROVED USES

A number of projects or improvements are currently under construction or planned in the vicinity of the project site. The Port has begun the renovation of the Ferry Building, including conversion of the ground floor to food market uses/restaurant and the upper floors to office use; construction is expected to be completed by end of summer 2002.[2] Other Port projects include rehabilitation of Piers 1 1/2, 3 and 5, and the downtown ferry terminal project which would involve moving the existing downtown ferry terminal closer to the Ferry Building and constructing a new south terminal. The rehabilitation of Piers 1 1/2, 3, and 5 is expected to be completed by the beginning of 2003 and the ferry terminal project will be completed by the end of summer 2001.[3]

The Port and other City agencies have proposed the construction of a 340- to 450-space underground parking garage under Block 202. These spaces are intended to be used to help satisfy the Planning Code parking requirements for the rehabilitation of the Ferry Building, and as mitigation for the 423 parking spaces that have been lost due to reconstruction of The Embarcadero. The status of this garage project is uncertain.

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[1] Port of San Francisco, Diane Oshima, Manager of Regulation and Environmental Affairs, personal communication, March 20, 2001.

[2] Port of San Francisco, Alec Bash, Waterfront Planner, personal communication, March 19, 2001.

[3] Ibid.

D. CHANGES IN LAND USE

With development of the project, land uses on the site would change from primarily open space to a mix of institutional (museum and learning center) and open space uses. The project would result in the construction of museum and learning center buildings totaling 58,000 square feet of site coverage and the removal of a 7,150-square foot pump station and maintenance yard, for a net reduction in public open space area of 50,850 square feet (from 223,400 square feet to 172,550 square feet), a 22% reduction.

Landscape features of the remaining open space areas would be modified to be compatible with the museum and learning center design. Some turf areas and trees would be removed, and the small knoll in the eastern portion of Block 202 would be graded. The location of the pump station and maintenance yard would be incorporated into the landscaped open space.

Hard surfaces would consist mainly of meandering pedestrian paths with pocket sitting areas. On Block 202, the existing sitting/gazebo area in the northwest corner of the block would be removed, and portions of the existing pedestrian walkways would be removed or reconfigured. On Block 203, the decks leading to the pedestrian bridge to Alcoa Plaza would be removed; the bridge itself would be retained and incorporated into the Phase II building design. Existing pedestrian walkways on Block 203 would generally remain in their current locations.

D1. Loss of Open Space

The elimination of the continuous nature of the open space on Blocks 202 and 203 would affect different user groups in different ways. The results of the use survey indicate that the majority of the people utilizing the site are walking through on their way to someplace else. The project would result in the removal of pathways in the southern portion of Blocks 202 and 203 (where the buildings would be sited), and the modification or removal of some pathways in the remaining open space. The construction of buildings in the current location of pedestrian paths could limit people's use of the site as a pedestrian pathway and would require people to circumvent the buildings on certain routes through the site. In particular, the Phase I building would remove the well-used diagonal pathway between Justin Herman Plaza and the gazebo/sitting area. On Block 203, the pathway within the Davis Street right-of-way will have been relocated as part of the Davis Street extension.

The second-largest user group on the project site consisted of people sitting on the site. Development of the project would involve the removal of the gazebo/sitting area in the northwest corner of Block 202. As noted, this area was most heavily used during the lunch hour, but people were observed sitting in this area during all three observation periods. The project would develop pocket seating areas along the pathways through the open space, but no large paved seating area would be developed to replace the gazebo. Turf areas would still be available for seating, but the extent of the turf would be smaller. During the lunch hour on warm days, the pocket seating areas might not provide sufficient seating for all users of the site. The project could create a shortage of non-lawn sitting opportunities in the open space part of the site during the lunch hour on warm days. Development of the project would also reduce the amount of lawn area; because the landscaping plan is not finalized, it is not known how much of the open space area would remain as open turf and would be available for seating.

On Block 203, the main seating areas are the low walls around the elevated concrete decks leading to the pedestrian bridge. No benches are present on Block 203. The project would remove the elevated decks on Block 203, but would provide new pocket seating areas along the pathways. As with Block 202, the landscaping plan for Block 203 has not been finalized, and it is not known how much of the existing lawn area would remain as open turf following development of the project.

Other users of the site were primarily recreational users, such as joggers, bicyclists, and skaters, passing through. Active recreational activities on the lawn areas – such as tossing a ball – could be affected by project development. The site currently does not provide suitable space for most full-scale recreational games or team sports like soccer or baseball, so activities tend to be more casual, such as a couple of people kicking a soccer ball around cones, as was observed on Block 202. Since the landscaping plan has not been finalized, it is not known whether existing lawn areas would remain as open turf or would be partially or entirely replaced with trees and shrubs. Therefore, the project would be expected to limit the extent to which active recreational activities could occur on Block 202. Since no active recreational activities were observed on the lawn areas on Block 203, project development would not affect the use of that block for such activities.

Blocks 202 and 203 also provide an area of visual open space that can currently be viewed from several of the surrounding buildings, the Embarcadero and other view corridors near the site. The development of the proposed museum and learning center would eliminate the site as a downtown visual resource. The loss of publicly accessible open space in a dense urban setting, while affecting a limited number of users and viewers in the immediate vicinity, has been conservatively identified as a significant environmental impact.

D2. Comparison with Nearby Uses

The project site is situated among a mix of urban uses, including high-rise office with ground and mezzanine- level retail at Three and Four Embarcadero Center, high-rise office at Maritime Plaza, high-rise and townhouse residential at Golden Gateway Center, active recreation at the Golden Gateway Tennis and Swimming Club, public open space at Justin Herman Plaza, and ferry transit at the Ferry Building. Activity levels around the site are relatively high during weekday business hours and relatively low at night. Weekend activity in the area tends to be lower than weekday, due to the fact that most surrounding office uses are closed. Peak use of the site generally occurs during the weekday lunch hour on warm, sunny days.

Currently, the site does not serve as a visitor attraction. The proposed museum and learning center would be a visitor attraction, and would increase human activity in the area. Attendance is expected to be approximately 420,000 visitors in the first year, with a sustainable annual attendance of around 400,000 thereafter. It is anticipated that approximately 20% of the annual visitors would be group visits consisting of 30 to 50 persons in each group. It is expected that the majority of the group visitations would be school children and would occur during non-commute periods between September and May. There could be times during which group visits coincide with the traditional peak use of the site (the effects on the existing site uses are described earlier in this section).

During the week, the proposed use of the site would not noticeably affect the overall activity level of the general area, given the already high level of activity. Increased activity would be expected to be noticeable on site, with perhaps some increased visitor activity at the adjacent Embarcadero Center ground-floor and mezzanine level retail shops and food service uses. On weekends and holidays, the visitors to the site would be noticeable, given the generally lower activity level in the area from office uses.

The operating hours would be from 10:00 AM to 6:00 PM PST Friday through Wednesday and from 10:00 AM to 8:00 PM PDT Thursday and during certain holidays. The initial hours of operation may be shorter. There would also be approximately 125 to 150 special evening and weekend events. The proposed cafe would be open the same hours as the Butterfly Discovery Park; it would also be used to cater evening events. The proposed cafe would not be accessible directly from the street.

The project would also be generally compatible with the residential uses to the north. The landscaped open space would be in the northern portion of the site, providing a buffer between the museum and learning center building and the adjacent residential uses at the Golden Gateway Center. Mature trees remaining in the northern portion of Block 203 would partially screen the view of the museum and learning center building from the residential townhouses to the north. Museum and learning center visitors would be expected to engage in primarily passive recreational activities in the open space, such as eating lunch or strolling along the pathways, and use of the site by museum and learning center visitors would generally occur during normal business hours.

D3. Parking Garage

As noted earlier, the Port of San Francisco and other City agencies have proposed the construction of a 340- to 450-space underground parking garage under Block 202. Although the status of this garage project is uncertain at this time, and no design has been put forth, it is discussed briefly here in terms of the potential land use changes that might result from its construction.

As discussed in **Section 3.2, Transportation and Circulation**, existing on- and off-street parking facilities in the area are currently operating at capacity during the weekday mid-day peak period, and would not be able to accommodate a substantial portion of the parking demand of the proposed project. Development of a garage on site could provide additional parking spaces to accommodate a portion of the unmet parking demand in the area. The presence of a garage on the site could increase the number of vehicle trips to the area by visitors to the museum, as some visitors would be likely to weigh the convenience of on-site, off-street parking heavily when choosing their mode of travel. Regardless of whether users of the parking garage were visitors to the proposed museum, Ferry Building, Embarcadero Center, or other adjacent uses, the garage would be expected to operate at capacity during the weekday mid-day peak hour, and increased vehicular activity would be expected on city streets around the garage entrances/exits.

Construction of the proposed garage would also change the character of open space areas on Block 202 where the garage entrances and exits are provided. However, the garage would not be expected to change the overall open space character and use of the site as it is anticipated that the garage would be underground with a park-like setting at the street level.

D4. Potential Conflicts with Plans and Policies

The project would change the use of the project site from predominantly open space to a more intensive urban use. As described above, the survey results demonstrate that the site is used primarily for passive recreational, and some active recreational, uses. The project would provide some areas for passive recreational use, but these areas would be smaller than the existing areas available. The loss of open space that would result from the project would conflict with the land-use planning for the project site and vicinity. This conclusion is demonstrated by examination of the standards applied to "supporting facilities" in the Recreation and Open Space Element of the *General Plan*.

The Recreation and Open Space Element notes that many of the sites designated for open space in the *General Plan* are under the jurisdiction of public agencies other than the Recreation and Park Department. The Element anticipates that the public agencies may wish to use the land for "supporting facilities," described as those that are ". . .necessary to perform the public function of the particular agency holding the land designated as open space." When such uses are under consideration, the Recreation and Open Space Element indicates that the agency proposing the use should make the following information available to the public:

- Information demonstrating that the facility proposed is necessary to provide the public service of the agency holding the site in question;
- Sufficient proof that alternative sites have been studied and that the proposed facility can be located only on the site in question;

- A study which assesses the effects of the proposed facility on the site in question and on the surrounding neighborhood.

A. INTRODUCTION

This section discusses potential project effects related to transportation and circulation, including intersection operations, transit demand, and impacts on pedestrian circulation, parking, bicycles, and freight loading, as well as construction impacts. The discussion summarizes the *Butterfly Discovery Park Transportation Study*, prepared by Wilbur Smith Associates on March 2, 2001, which addresses the existing transportation network and assesses the transportation impacts associated with the proposed project. The Transportation Study is on file and available for review at the San Francisco Planning Department, 1660 Mission Street, as part of Case File 1999.244E.

B. SETTING

B1. Roadway Network

The following sections provide a discussion of the existing roadway system in the vicinity of the project site, including number of travel lanes, traffic flow directions and parking. The regional roadway network is shown on **Figure 2.0-1, Project Site Location**, on p. 2.0-3 in **Section 2.0, Project Description**; the local roadway network and analysis locations are shown on **Figure 3.2-1, Analysis Locations**.

B1(a) Regional Access

Interstate 80 (I-80) provides the primary regional access to the project area. This freeway is located south of the project site between Harrison and Bryant Streets. The San Francisco-Oakland Bay Bridge is part of I-80 and connects San Francisco with the East Bay and points to the east. Access to the site from the East Bay is via the I-80 westbound off-ramp at Fremont Street. Access to the I-80 and the Bay Bridge eastbound is via the on-ramp at Sterling Street near Second Street and at the intersections of Essex and Harrison Streets and First and Harrison Streets. Between the South Bay and the project site, access is via the I-80 eastbound Fourth Street off-ramp at the intersection of Fourth and Bryant Streets; access to I-80 westbound is via the on-ramp at the intersection of Fourth and Harrison Streets.

U.S. Highway 101 (U.S. 101) serves San Francisco and the Peninsula/South Bay, and extends north via the Golden Gate Bridge to the North Bay. The closest ramps to U.S. 101 south of the project site are at South Van Ness and Mission Street, and U.S. 101 can also be accessed via I-80 and I-280 southbound. Access to the Golden Gate Bridge is provided by surface streets in the northern part of San Francisco. Access to the South Bay is also available on I-280 via ramps at the intersections of Sixth and Brannan Streets and Fifth and King Streets.

B1(b) Local Access

Most of the streets providing local access are identified as Major Arterials in the San Francisco *General Plan*.[1] Major Arterials are designated to carry crosstown and local traffic. Intersections with all major streets are controlled by traffic signals.

(i) The Embarcadero

The Embarcadero runs between the China Basin and Taylor Street, near Fisherman's Wharf. Within the project area, The Embarcadero is a two-way roadway with three travel lanes in each direction, and a wide center median for the F-Market historic streetcar line. The San Francisco *General Plan* identifies The Embarcadero as a Major Arterial, a Transit Preferential Street, a Neighborhood Pedestrian Street, and a Citywide Bicycle Route. The Embarcadero is part of the Congestion Management Program (CMP) roadway network.

(ii) Drumm Street

Drumm Street is a north-south direction roadway that connects Jackson and Market Streets. It has two lanes in each direction with a raised center median and metered parking on both sides of the street. The San Francisco *General Plan* identifies Drumm Street as Major Arterial between Jackson and Market Streets, a Transit Preferential Street between Jackson and Market Streets, and a Neighborhood Pedestrian Street between Sacramento and Market Streets. Drumm Street between Washington and Market Streets is part of the CMP roadway network.

(iii) Davis Street

Davis Street is a one-way southbound direction roadway that runs discontinuously between Green Street and Market Street. Davis Street does not connect between Jackson and Clay Streets, near the project site. It has three lanes with parking on both sides of the street. The San Francisco *General Plan* identifies Davis Street as a Secondary Arterial between Green and Jackson Streets, a Major Arterial between Clay and Market Streets, a Transit Preferential Street between Clay and Market Streets, and a Neighborhood Pedestrian Street between Clay and Market Streets.

(iv) Battery Street

Battery Street is a one-way southbound direction roadway that runs between Lombard and Market Streets. Battery Street has three lanes along some segments and four lanes along others, with metered

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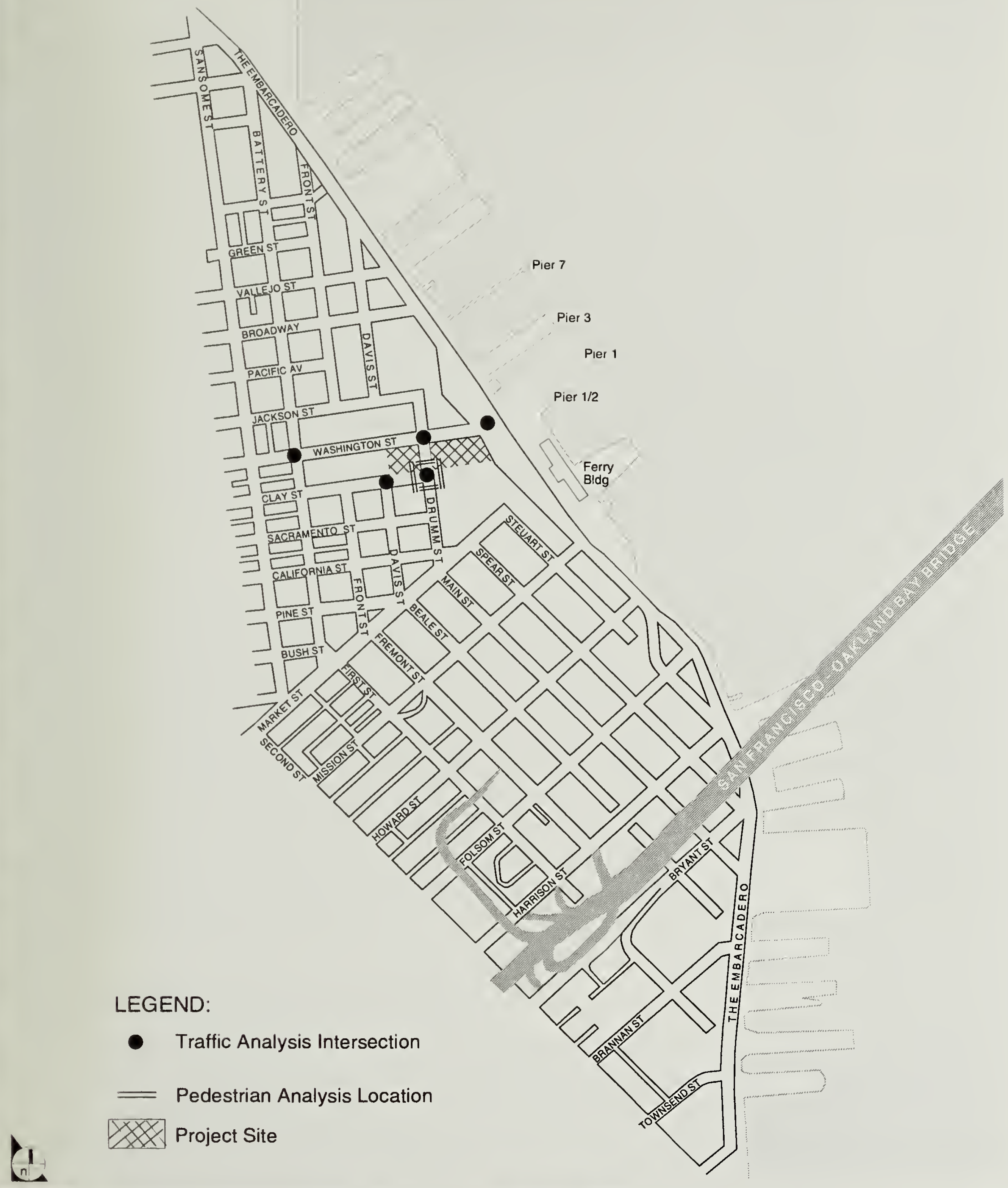
[1] *San Francisco General Plan*, Transportation Element, July 1995.



NO SCALE

SOURCE: Wilbur Smith Associates

FIGURE 3.2-1

Analysis Locations

parking on both sides of the street. The San Francisco *General Plan* identifies Battery Street as a Secondary Arterial, Transit Preferential Street, and a Neighborhood Pedestrian Street between Lombard and Market Streets.

(v) Washington Street

Washington Street is an east-west direction roadway between Arguello Boulevard and The Embarcadero. Between Powell and Drumm Streets, Washington Street is one-way westbound. Between Battery and Front Streets, Washington Street has two lanes in the westbound direction with angled metered parking on the north side and parallel metered parking on the south side. Between Davis and Drumm Streets, Washington Street has one lane westbound with parallel metered parking on both sides of the street. Between Drumm Street and The Embarcadero, Washington Street has two lanes in each direction separated by a landscaped median and parking on both sides. The San Francisco *General Plan* identifies Washington Street as a Major Arterial between Kearny Street and The Embarcadero, a Transit Preferential Street between Hyde and Mason Streets, and a Neighborhood Pedestrian Street between Fillmore and Mason Streets. Washington Street between Drumm and Kearny Streets is part of the CMP roadway network.

(vi) Clay Street

Clay Street is a one-way eastbound roadway. Between Battery Street and Front Street, Clay Street has two mixed-flow traffic lanes (allowing autos, trucks and transit vehicles) and a south-curb transit-only lane, with parallel parking allowed on the north curb. Between Front Street and Davis Street, Clay Street has three traffic lanes with parallel parking allowed on the north side of the street. Between Davis Street and Drumm Street, Clay Street has one traffic lane plus a parking lane on the north side, and four metered loading/unloading spaces and a bus stop and layover (for the 1-California line) on the south side The San Francisco *General Plan* identifies Clay Street as a Major Arterial between Kearny and Drumm Streets, a Transit Preferential Street between Gough and Drumm Streets, and a Neighborhood Pedestrian Street between Fillmore and Mason Streets. Clay Street between Kearny and Davis Street is part of the CMP roadway network.

B2. Intersection Operating Conditions

Existing intersection operating conditions were evaluated for the weekday PM peak hour (5:00 to 6:00 PM), and the intersection of Washington Street and The Embarcadero was also evaluated for weekend Midday conditions. Intersection turning movement counts were collected at the four signalized study intersections on Tuesday, September 21, 1999, between 4:00 and 6:00 PM and on Saturday, September 18, 1999 between 12:00 and 2:00 PM. Operating characteristics of intersections are described by the concept of Level of Service (LOS). LOS is a qualitative description of an intersection's performance based on the average delay per vehicle. Intersection level of service ranges from LOS A, which indicates free flow or excellent conditions with short delays, to LOS F, which indicates congested or overloaded conditions with extremely long delays. Typically, LOS A, B, C, and D are considered excellent to satisfactory service levels, LOS E is undesirable, and LOS F conditions are unacceptable.

Table 3.2-1, Intersection Level of Service – Existing Weekday PM Peak Hour Conditions, shows that in general, during the PM peak hour, the study intersections operate at acceptable levels of service, with average delays of less than 20 seconds per vehicle. As shown in **Table 3.2-2, Intersection Level of Service – Existing Weekend Midday Peak Hour Conditions,** the intersection of Washington Street and The Embarcadero currently operates at LOS B during the weekend Midday peak hour. Field observations during weekends of the other three study intersections indicate that operating conditions are similar to the weekday PM peak hour conditions. Appendix B of the Transportation Study contains the detailed calculations of the intersection LOS analysis.

Table 3.2-1
Intersection Level of Service
Existing Weekday PM Peak Hour Conditions

Intersection	Delay (sec. Per vehicle)	LOS
Washington Street/Battery Street	9.4	B
Washington Street/Drumm Street	8.2	B
Washington Street/The Embarcadero	13.2	B
Clay Street/Drumm Street	8.1	B

Source: Wilbur Smith Associates, October 1999.

Table 3.2-2
Intersection Level of Service
Existing Weekend Midday Peak Hour Conditions

Intersection	Delay (sec. per vehicle)	LOS
Washington Street/The Embarcadero	12.0	B

Source: Wilbur Smith Associates, October 1999.

B3. Transit Network

The project site is well served by public transit, with both local and regional service provided in the nearby vicinity. Local service is provided by the San Francisco Municipal Railway (MUNI) bus service and MUNI Metro service along Market Street. Regional service is provided to the East Bay by Bay Area Rapid Transit (BART), Alameda-Contra Costa Transit (AC Transit) and ferries. Service to the Peninsula and the South Bay is provided by BART, SamTrans, and Caltrain. Service to the North Bay is provided by Golden Gate Transit buses and ferries. **Figure 3.2-2, Existing Transit Network and Stop Locations,** presents the transit service and stop locations in the project area.

B3 (a) MUNI

MUNI operates several types of service in the project area, including bus (both diesel and electric trolley), light rail (MUNI Metro), cable car, and electric streetcar. The 1-California electric trolley line runs inbound (east) adjacent to the project site on Clay Street and outbound one block from the site on Sacramento Street. Within the project vicinity, MUNI operates diesel and electric trolley buses on 16 routes and 3 Caltrain Express buses. In addition, 15 MUNI bus routes begin and terminate near the project site. MUNI Metro light rail service operates five routes (J-Church, K-Ingleside, L-Taraval, M-Ocean View, and N-Judah) underneath Market Street. The nearest MUNI Metro station is at the Embarcadero Station, located on Market Street.

The F-Market historic streetcar line operates along Market Street, and has recently been extended to Fisherman's Wharf via Market Street, Steuart Street, and The Embarcadero. The C-California Cable Car line originates at California and Davis Streets and continues along California Street to Van Ness Avenue.

B3 (b) Regional Service Providers

Regional transit service is also available in the vicinity of the project site, including BART (East Bay and Peninsula) that operates under Market Street and Golden Gate Transit (North Bay) that operates buses on Battery and Sansome Streets and provides ferry service. Other ferry service provided from the Ferry Building includes The Blue & Gold and Red & White fleets (Alameda/Oakland, Vallejo, Sausalito, Tiburon, and Angel Island). Other regional transit operators, including SamTrans (South Bay and Peninsula) and AC Transit (East Bay) can be accessed at the Transbay Terminal, approximately 0.5 mile from the project site. Caltrain (South Bay) is accessible from the project site by the N-Judah MUNI Metro and three Caltrain Express buses.

B4. Parking Conditions

B4(a) Off-Street Parking Conditions

Existing off-street parking conditions in the project area were examined within a parking study area bounded by Pacific Avenue to the north, Market Street to the south, Battery Street to the west and The Embarcadero to the east.

Existing off-street parking supply and occupancy are based on surveys conducted for the Pier 1 Transportation Study in August and November 1998, and additional surveys conducted on Tuesday, September 14, and Saturday, September 18, 1998. Occupancy data were obtained for the weekday and weekend midday peak periods (1:00 to 3:00 PM).

On weekdays there are 14 public parking facilities in the study area, containing about 4,890 self-park and valet spaces. Most surveyed facilities were at 100 percent occupancy during the weekday Midday peak, and the overall occupancy was estimated to be about 97 percent. On weekends, a number of facilities in the study area are closed to the public or do not provide valet parking. On weekends, there are 11 parking facilities open to the public, containing about 3,700 spaces. Overall weekend occupancy is about 87 percent.

It should be noted that the effective capacity of a self-park parking facility is approximately 90 percent of the total capacity. When occupancy exceeds 90 percent, motorists are usually required to circle around within the facility to find an available space.

B4(b) On-Street Parking Conditions

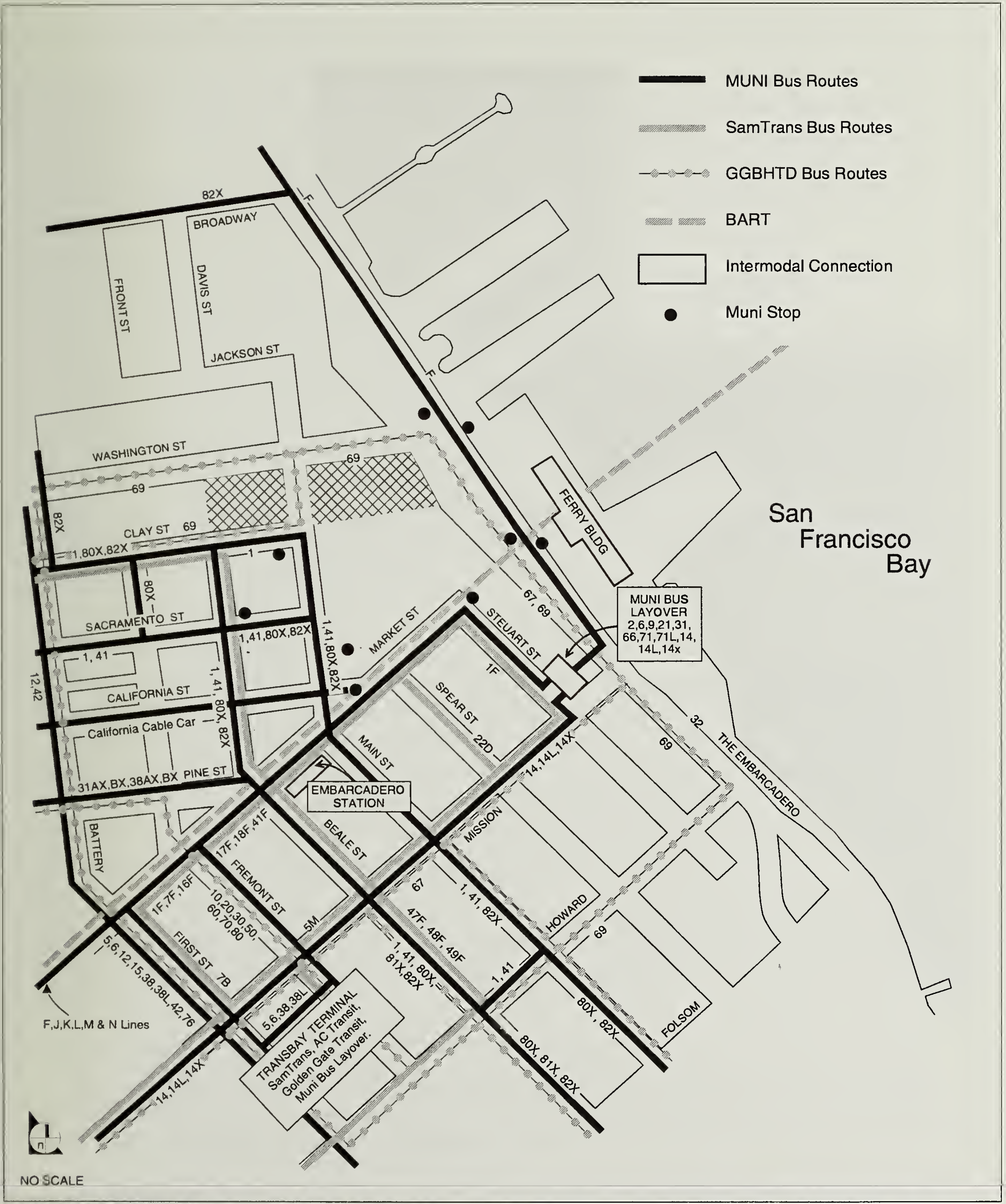
On-street parking spaces at the curbs adjacent to the project site are generally 30-minute metered parking (Monday through Saturday). On-street metered parking is generally full during weekdays, and about 80 to 90 percent occupied on weekends. Drumm Street between Clay and Washington Streets contains 30-minute metered parking spaces, as well as about 31 all day metered motorcycle spaces. During weekdays the motorcycle spaces are fully occupied; on weekends they are generally unoccupied. On Washington Street west of Davis Street, the on-street parking is restricted to vanpool parking on weekdays between 6:00 and 9:00 AM.

B5. Pedestrian Conditions

In the vicinity of the project site, pedestrian volumes are relatively heavy, especially during the midday and the morning and evening commute periods. Overall, the sidewalks and crosswalks in the area were observed to be operating under satisfactory conditions, with pedestrians moving at normal walking speeds.

Pedestrian conditions were assessed for the weekday midday and weekday PM peak hour for the four crosswalks at the intersection of Clay Street and Drumm Street. Pedestrian counts were conducted at the study locations on Tuesday September 22, 1999, between 10:00 AM and 1:00 PM, and between 4:00 and 6:00 PM.

Crosswalk operating conditions are measured by average pedestrian density, which is defined as the average square feet of space per pedestrian (SQFT/ped). An upper limit for acceptable conditions is LOS D, which equals approximately 15 SQFT/ped. The LOS for crosswalks is calculated for the "maximum surge," which represents the conditions when the WALK phase begins and pedestrians from both sides of the street simultaneously enter the crosswalk.



SOURCE: Wilbur Smith Associates

FIGURE 3.2-2

Existing Transit Network and Stop Locations

In general, the four crosswalks operate at acceptable LOS (LOS A and B). (Appendix D of the Transportation Study contains the crosswalk and sidewalk LOS descriptions and the detailed calculations of the LOS analysis.) Under LOS A and B conditions, pedestrians are able to move freely, with only minor, if any, conflicts. Due to the high pedestrian volumes, particularly during the Midday period, vehicles turning left from eastbound Clay Street (onto Drumm Street northbound) or turning right (onto Drumm Street Southbound) often have to wait until pedestrians clear the walkway.

In addition to the quantitative pedestrian analysis conducted at the intersection of Clay Street and Drumm Street, a qualitative assessment was made of the conditions at the intersection of Clay Street and Davis Street. The vehicle movements at the intersection are uncontrolled (there is no signal or STOP sign).

During the AM and PM peak periods, there are a large number of vehicles turning right from Clay Street onto Davis Street (Davis and Beale Streets are an alternate route to the Bay Bridge), and the number and duration of gaps in the vehicle flow are limited. As a result, pedestrians often have difficulty crossing the street. During the midday peak, when pedestrian volumes are typically greater, vehicles often wait to turn right onto Davis Street. The uncontrolled pedestrian and vehicle movements result in varying degrees of pedestrian/vehicle conflicts. During weekends, when traffic volumes and pedestrian volumes are lower, the number of conflicts is lower.

B6. Bicycle Conditions

San Francisco Bicycle Route #5 runs in both directions along The Embarcadero. The Embarcadero is a popular route for bicyclists due to its scenic attributes, the flat grade and the intermodal opportunities of the ferries, the nearby Embarcadero BART and MUNI station and the Caltrans Bay Bridge Bike Shuttle service to the Transbay Terminal. The Embarcadero south of Folsom Street and north of Broadway has on-street bicycle lanes. Between Folsom Street and Broadway, bicyclists traveling on the Embarcadero share the curb lane with moving vehicles. Battery Street between Clay and Market Streets is designated as Bicycle Route #11 (Class III facility – bicycles and vehicles share the same travel lane).

In the project area, a small number of bicyclists was observed during the site survey, riding on Drumm, Washington and Clay Streets. A larger number of bicyclists was observed riding on the Embarcadero Promenade north and south of the Ferry Building, as well as on Battery Street.

B7. Planned Improvements to Transportation Facilities

Three planned improvements will affect the transportation facilities in the project vicinity: the MUNI *South of Market Action Plan,* the extension of Davis Street between Washington and Clay Streets, and the proposed parking garage at Drumm and Washington Streets.

The MUNI *South of Market Action Plan,* adopted in May of 2000, includes changes to the transit service in the South of Market area and surrounding neighborhoods. The Plan is being implemented in two phases;

Phase 1 was completed in February 2001 and Phase 2 is scheduled to begin in the Spring of 2001. In the vicinity of the project site, the 12-Folsom service was expanded/extended in Phase 1 and a portion of the route was shifted from Howard Street to Harrison Street. In Phase 2, the 42-Downtown Loop will be split into two routes.

Davis Street will be extended and thus be open to vehicular traffic between Clay and Washington Streets. The Department of Parking and Traffic's (DPT) current schedule for the project is mid 2001.

The Port of San Francisco and other San Francisco City agencies have proposed the construction of a 340- to 450-space garage under Block 202 bounded by The Embarcadero, Washington Street, Drumm Street, and Clay Street. The garage would be located underneath Block 202. The status of this project is uncertain.

C. PROJECT IMPACTS

C1. Significance Threshold Criteria

C1(a) Local Intersections

In San Francisco, a project typically is considered to have a significant effect on the environment if it would cause an intersection to deteriorate to an unacceptable level; interfere with existing transportation systems by causing substantial alteration to circulation patterns or causing major traffic hazards; contribute substantially ("considerably") to cumulative traffic increases at intersections that would result in deterioration of traffic conditions to unacceptable levels; or contribute substantially to cumulative traffic increases at intersections already operating at unacceptable levels.

As defined by the City and County of San Francisco, the operational impact at intersections is considered significant when project-related traffic causes the intersection level of service for a signalized intersection to deteriorate from LOS D or better to LOS E or F, or from LOS E to LOS F. The City and County of San Francisco has no significance criteria for unsignalized intersections. For the purposes of this EIR, the operational impact at an unsignalized intersection is considered significant if two or more approaches operate at LOS E or F.

C1(b) Transit

In San Francisco, a project typically is considered to have a significant effect on the environment if it would cause a substantial project-specific or cumulative increase in transit demand that cannot be accommodated by existing or proposed transit capacity, resulting in unacceptable levels of transit service; or cause a substantial increase in operating costs such that significant adverse impacts in transit service levels could result. The project also would have a significant effect on the environment if, when considering cumulative development in the area, it would contribute substantially to the deterioration of transit service or cause substantial conflict with transit operations.

C1(c) Parking

Policies in the San Francisco *General Plan* emphasize the importance of public transit use and discourage the provision of facilities that encourage automobile use. In this context, and in the context of San Francisco's high level of transit accessibility, creation of parking demand that cannot be met by existing or proposed parking facilities would not itself be considered a significant environmental effect. Data on unmet parking demand are presented for informational purposes and may inform decisions regarding project approval. Secondary impacts may result from unmet parking demand, such as substantial changes in neighborhood character or creation of hazardous conditions caused by illegally parked cars.

C1(d) Pedestrians and Bicyclists

For this analysis, a project would be considered to have a significant effect on the environment if it were to result in substantial overcrowding on public sidewalks or crosswalks creating an unacceptable pedestrian LOS; create hazardous conditions for pedestrians or bicyclists; or otherwise substantially interfere with pedestrian or bicycle accessibility.

C1(e) Loading

The City and County of San Francisco has not formally adopted significance criteria for potential impacts related to loading activities. For this analysis, a project would be considered to have a significant effect on the environment if it were to create particularly hazardous conditions for passenger loading, not accommodate its anticipated loading demand, or otherwise substantially interfere with vehicular, transit, pedestrian or bicycle accessibility to the site and to adjoining areas.

C1(f) Construction

Generally, construction-period transportation impacts would not be considered significant because they would be temporary. The proposed project would be considered to have significant transportation impacts during the construction period if it were to create substantial traffic hazards; create traffic congestion that would substantially contribute to a significant deterioration in air quality; or substantially interfere with transit, pedestrian or bicycle access to the site and to adjoining uses.

C2. Impacts of the Proposed Project

C2(a) Project Travel Demand Analysis

(i) Trip Generation

The person-trip generation was estimated based on the projected number of employees and the projected annual attendance, as well as information from the Exploratorium on the distribution of visitors by month and day of week.

About 400,000 annual visitors are projected to visit the project after the first year of operation. This estimated number of visitors was used to calculate the visitor demand for group and regular visitors. Based on information from the project sponsor, about 20 percent of the annual visitors are anticipated to arrive in groups (half school and half tour groups). Based on information on attendance at the Exploratorium, monthly attendance was estimated for a typical spring month (attendance between April and August is higher than between September and March), for both a weekday and weekend day. The number of weekday PM and weekend Midday trips was estimated based on surveys conducted in 1997 at the San Francisco Museum of Modern Art (SFMOMA), as documented in the *San Francisco Museum of Modern Art Parking Garage Transportation Study,*[2] and surveys conducted in December 1999 at the M.H. deYoung Museum and August 2000 at the Exploratorium.

During weekdays, visitor trips to cultural facilities such as the proposed project are generally evenly distributed in the hours following opening of the facility, peak mid-afternoon, and taper off towards the end of the day. About seven percent of the daily visitor trips to and from the proposed Butterfly Discovery Park are expected to occur during the PM peak hour of traffic (5:00 to 6:00 PM). The proposed project would general a total of about 3,642 daily weekday person-trips (inbound and outbound), and 273 weekday PM peak hour person-trips (inbound and outbound).

During weekend days, trips to and from the cultural facility are generally evenly distributed throughout the day with a peak in the mid-afternoon. About 16 percent of the weekend daily visitor trips to and from the proposed project are expected to occur during the weekend Midday peak hour (12:00 to 1:00 PM). On weekends, the proposed project would generate about 4,304 person-trips, and 693 person-trips during the weekend Midday peak hour.

Appendix E of the Transportation Study contains the trip-generation calculations.

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[2] San Francisco Museum of Modern Art Parking Garage Transportation Study, May 1998 (Case No. 97.309E)

(ii) Mode Split

Assignments of project-generated trips to travel modes were made in order to determine the number of auto, transit, walk and "other" trips. Mode split and vehicle occupancy information for the employee and visitors were based on surveys conducted at the SFMOMA.

Of the 273 new person-trips generated during the weekday PM peak hour, about 44 percent would be made by auto (120 trips), and about 28 percent each by transit (77 trips) and walk/other modes (76 trips). The 120 auto person-trips represent 59 additional vehicle trips (21 inbound and 38 outbound).

During the weekend Midday peak hour, the Butterfly Discovery Park would generate 693 new person-trips, which would have a similar mode split to the weekday PM peak hour. There would be about 309 auto person-trips, 178 transit trips and 206 walk/other trips. The 309 auto person-trips represent 146 additional vehicle trips (99 inbound and 47 outbound).

(iii) Trip Distribution

The distribution percentages for the proposed project uses are based on the distribution information for employees and visitors as obtained from surveys conducted at the SFMOMA. The majority of the project-generated trips would come from areas within San Francisco and the East Bay, with decreasing percentages from the North and South Bays. Trip distribution was used as the basis for assigning project-generated trips to the local streets in the study area and the transit screenlines.

(iv) Parking Demand

Parking demand for the project was estimated based on the methodology presented in the San Francisco Planning Department's *Interim Transportation Impact Guidelines (Transportation Guidelines)*. Parking demand consists of both long-term demand (typically employee parking) and short-term demand (visitors). Long-term parking was estimated based on the number of employees (55 full-time employees at completion of Phase I and Phase II), and by applying the average mode split and vehicle occupancy from the trip generation estimation. Short-term parking was estimated based on the total daily visitor trips by vehicle and an average turnover rate of five times per day. The project would generate a total parking demand for 72 spaces during a weekday, and 99 spaces during a weekend day.

(v) Loading Demand

Freight Delivery and Service Vehicle

Freight delivery and service vehicle demand was estimated based on the methodology and truck trip generation rates provided in the *Transportation Guidelines*. It is estimated that upon completion of both Phase I and Phase II of the project, there would be about 15 delivery and service vehicle trips per day, which corresponds to a demand for one space during both the average loading hour and the peak loading hour.

Passenger Loading

As indicated previously, about 20 percent of the annual visitors are anticipated to arrive in groups (half school and half tour groups). On a daily basis, this translates to between 400 and 550 visitors. The group visits are anticipated to occur via school/tour bus, transit or private autos (parent drivers). The project site is characterized by a high level of local and regional transit service. Inquiries by the project sponsor to both public and private schools in San Francisco indicate that all schools rely in part upon MUNI for class trips.

The project sponsor intends to establish and maintain a program that manages tour group visits to the project site. Although this program would be based upon the proposed project's capacity to efficiently provide for the needs of visiting groups (e.g., classroom size), the program would also provide transportation benefits. Effective management of group tours through this program would allow the project sponsor to host visiting groups in a manner that would manage bus traffic at and around the project site.

Group tours of the proposed project would only be allowed through advanced reservations, at which time the mode of transport which the group intends to utilize would be identified by the project sponsor. Although the project sponsor would encourage such groups to utilize public transit, management of a group reservation process would allow the project sponsor to schedule groups for not only a specific time, but also on the basis of the transportation mode being used by the group. This approach would allow the project sponsor to have advanced knowledge of which groups would be arriving and departing by charter bus (including vans and autos) and which would be arriving and departing by public transportation.

If all of the group visitors travel by private or school bus, there would be about nine buses arriving and departing on a daily basis. Some of these group visits, however, may be made by public transit (MUNI or BART), which may reduce the number of trips by private or school buses to and from the project site.

C2(b) Existing Plus Project Conditions

(i) Traffic Impacts

The intersection operating conditions analysis was conducted to assess potential traffic impacts that would be due to the addition of project-related traffic to existing peak hour traffic volumes. Two scenarios were evaluated:

- Existing Roadway Scenario
- Garage and Revised Roadway Scenario

Existing Roadway Scenario. This scenario assumes that the existing roadway configuration at the study intersections would be maintained.

Garage and Revised Roadway Scenario. This scenario includes changes to the roadway network and traffic volumes to reflect identified projects in the project area that would affect traffic volumes and operating conditions at the study intersections. These projects were included as improvement measures in the *Alternatives to Replacement of the Embarcadero Freeway and Terminal Separator Structure* DEIS/DEIR, and include:

- *Parking Garage on Block 202*–For purposes of this analysis, a 450-space garage was assumed, with an entrance on The Embarcadero and an entrance and exit on Drumm Street. Based on use of the garage primarily for short-term parkers (generally less than four hours), there would be a total of 67 inbound and 109 outbound trips during the weekday PM peak hour, and 104 inbound and 60 outbound trips during the weekend Midday peak hour.
- *Extension of Davis Street* –The street will be 32 feet wide and will contain one travel lane in the southbound direction and on-street parking along both the east and west curbs. With the extension of Davis Street, the intersection of Clay and Davis Streets would be signalized.
- *Restriping of Washington Street* – Washington Street between Drumm Street and The Embarcadero currently has two eastbound lanes. The westbound direction is currently striped for two lanes at the intersection with The Embarcadero, but one wide lane at the westbound approach to Drumm Street (although vehicles at the approach typically form two lanes). The improvement would stripe the westbound approach to two lanes.

The proposed project would generate 21 inbound and 38 outbound vehicle trips during the PM peak hour, and 99 inbound and 47 outbound vehicle trips during the weekend Midday peak hour. **Tables 3.2-3, Intersection Level of Service: Existing and Existing-Plus-Project Conditions Weekday PM Peak Hour and 3.2-4, Intersection Level of Service: Existing and Existing-Plus-Project Conditions Weekend Midday Peak Hour,** present the results of the Existing plus Project LOS analysis for weekday and weekend conditions, respectively. The LOS analysis output is presented for conditions with the Existing Roadway Scenario, and for the Garage and Revised Roadway Scenario, as described above. The addition of project-generated traffic would result in minimal changes in the average vehicle delay at the study intersections. All study intersections would remain operating at the same service levels as under existing conditions, and the average delay per vehicle would increase by less than two seconds. Under the Garage and Revised Roadway Scenario, the intersection of Clay and Davis Streets would be signalized and would operate at LOS B. Therefore, no significant impacts to the local intersections are expected upon implementation of the proposed project.

Table 3.2-3
Intersection Level of Service:
Existing and Existing-Plus-Project Conditions
Weekday PM Peak Hour

Intersection	Existing Conditions		Existing Plus Project Conditions			
			Existing Roadway Scenario		Garage and Revised Roadway Scenario	
	Delay[1]	LOS	Delay	LOS	Delay	LOS
Washington Street / Battery Street	9.4	B	9.9	B	11.1	B
Washington Street / Drumm Street	8.2	B	8.2	B	9.2	B
Washington Street / The Embarcadero	13.2	B	13.4	B	15.5	C
Clay Street / Davis Street [2]	--[2]	--[2]	--[2]	--[2]	8.4	B
Clay Street / Drumm Street	8.1	B	8.2	B	8.5	B

Source: Wilbur Smith Associates, August 2000.

Notes:

1. *Delay = average delay per vehicle in seconds*
2. *Under the Existing Roadway configuration the intersection of Clay Street and Davis Street is uncontrolled. Clay Street is one-way eastbound, while Davis Street is one-way southbound. The only turning movement at this intersection is right turns from Clay Street onto Davis Street. Under the Revised Roadway configuration, this intersection would be signalized.*

Table 3.2-4
Intersection Level of Service:
Existing and Existing-Plus-Project Conditions
Weekend Midday Peak Hour

Intersection	Existing Conditions		Existing Plus Project Conditions			
			Existing Roadway Scenario		Garage and Revised Roadway Scenario	
	Delay[1]	LOS	Delay	LOS	Delay	LOS
Washington Street / The Embarcadero	12.0	B	12.2	B	12.6	B

Source: Wilbur Smith Associates, August 2000.

Notes: 1. *Delay = average delay per vehicle in seconds*

Garage Operations

Although the vehicle trips that would be generated by the proposed Port of San Francisco garage on Block 202 would not substantially affect the operating conditions of the study intersections, the vehicle trips would result in additional vehicles on Drumm Street, which could affect vehicle flow and pedestrian conditions. The impact of the proposed garage on traffic and pedestrian conditions would depend to a large extent on the design and operation of the garage. Details regarding the design and operation of the proposed garage are not available from the Port of San Francisco at this time; however, the following assessment of the garage operations can be made.

The two entrances into the garage (at The Embarcadero and at Drumm Street) would distribute the trips destined to the garage and would reduce the potential for queuing of vehicles as they enter the facility. Since the access control (e.g., ticket spitters or attendant) would be located one level underground and there would be queuing space at that underground level and along the access ramp, the potential for lengthy queues to develop at the two entrances would be minimal. All vehicles exiting the garage would be required to turn right onto Drumm Street northbound (a raised median divides the northbound and southbound lanes), which would reduce the potential for conflicts between vehicles exiting the garage and moving traffic on Drumm Street. The vehicle trips destined to the garage entrance on The Embarcadero are not anticipated to affect the operations of the recently revised 12-Folsom line operating on The Embarcadero.

(ii) Transit Impacts

MUNI

Four screenlines have been established in San Francisco to analyze the potential impacts of projects on MUNI service: Northeast, Northwest, Southwest, and Southeast, with sub-corridors within each screenline. The bus and light rail lines used in this screenline analysis are considered the major commute routes from the downtown area.

For the purpose of this analysis, MUNI ridership measured at the four San Francisco screenlines and sub-corridors represents the peak direction of travel and patronage loads for the PM commute outbound direction from the project area to other parts of San Francisco.

In contrast to other transit operators, MUNI has established a capacity utilization service standard of 1.0, which includes not only seated capacity but also a substantial numbers of standees, with standees representing somewhere between 30 to 80 percent of seated passengers, depending upon the specific transit vehicle configuration. An impact would occur if project-related transit trips would cause the capacity utilization to increase to 1.0 or greater during the PM peak hour.

The proposed project would generate approximately 77 weekday PM peak hour transit trips (25 inbound and 52 outbound). It is estimated that of the 52 outbound transit trips, approximately 19 trips would cross the MUNI screenlines, and about 29 trips would cross the regional screenlines. The remaining four transit trips would not cross any transit screenlines.

The addition of the 19 riders to the four MUNI transit screenlines would not substantially increase the number of passengers to affect the peak hour capacity utilization. Capacity utilization for all screenlines would remain similar to existing conditions.

Regional Transit Providers

Similar to MUNI, the analysis of regional transit impacts focuses on the increase in transit patronage in the outbound direction during the weekday PM peak hour. Three regional screenlines have been established around San Francisco to analyze the potential impacts of projects on the regional transit carriers. The locations of the screenlines and the transit providers that cross each screenline are as follows:

- East Bay: San Francisco Bay, including the Bay Bridge

  (AC Transit, BART, ferries)

- North Bay: San Francisco Bay, including the Golden Gate Bridge

  (Golden Gate transit buses and ferries)

- South Bay: San Francisco-San Mateo county line

  (BART, Caltrain, SamTrans)

The regional screenlines are schematically illustrated in Appendix C of the Transportation Study. For the purpose of this analysis, the ridership measured at the three screenlines represents the peak direction of travel and patronage loads that corresponds with the evening commute outbound direction from the project area to the region.

The capacity is based on the number of seated passengers per vehicle. All of the regional transit operators except BART have a load factor standard of 1.0, which indicates that all seats are full. BART has a three-hour performance standard of 115 percent, which indicates that all seats are full and an additional 15 percent of the seating capacity is standees (1.15 passengers per seat). An impact would occur if the project-related transit trips would cause capacity utilization to increase to 1.0 (100 percent) or greater for AC Transit, Golden Gate Transit, SamTrans or Caltrain, and to 115 percent or greater for BART.

The 29 PM peak hour transit trips crossing the regional screenlines would be distributed as follows: 22 trips on BART, 1 trip on AC Transit, 1 trip on SamTrans, 1 trip on Golden Gate Transit, and 4 trips on Caltrain.

The addition of the project-generated transit trips would not have a substantial impact during the PM peak hour. The capacity utilization would not change for any of the regional transit carriers from Existing conditions. All of the regional transit carriers, except for BART, would continue to operate at less than 100 percent of capacity. Although BART to the East Bay would operate at over 120 percent of capacity during the PM peak hour, the three-hour load factor would be 113 percent, slightly less than the standard of 115 percent.

(iii) Parking Impacts

Proposed Project Supply: The proposed project would not provide any off-street parking spaces.

A passenger loading zone of about 260 feet in length would be provided on the west side and 160 feet on the east side of Drumm Street between Clay and Washington Streets. These passenger loading bays would displace the existing metered vehicle and motorcycle parking spaces (a total of ten 30-minute metered vehicle and 62 daily metered motorcycle spaces). *Planning Code Requirement:* Pursuant to Section 151 of the *Planning Code,* the project would be required to provide 68 parking spaces. The project sponsor would request the Planning Commission deviation from the off-street parking requirement pursuant to Section 303 and Section 304 of the *Planning Code* (conditional use authorization and planned unit development).

Per Section 155.3 of the *Planning Code,* the project would be required to provide four showers and eight clothes lockers. The proposed project would conform to these requirements.

Parking Demand: The project would generate a total parking demand for about 72 spaces on weekdays and 99 spaces on weekends. The project would not provide off-street parking spaces, and thus there would be a shortfall of between 72 and 99 parking spaces.

A parking supply shortfall is also anticipated with the planned renovation and rehabilitation of the Ferry Building, as well as the conversion of the Pier 1 shed from parking to office uses. The cumulative parking shortfall for the proposed project, the Ferry Building and the Pier 1 project would be about 650 spaces. Some of the trips to the project site and the Ferry Building may be linked, and therefore the cumulative shortfall may be less.

The combination of the proposed project, the renovation of Pier 1 and the Ferry Building would result in increased utilization/occupancies at existing parking facilities that have some available capacity. However, as described in **Section B4(a), Off-Street Parking Conditions**, the existing off-street facilities in the vicinity are effectively operating at capacity during the weekday midday peak period, and would not be able to accommodate a substantial portion of the projected unmet demand in the area. In addition, there would be additional traffic congestion in the project area, as drivers circle around to find available on-street or off-street parking adjacent to their destination. Some drivers may switch to transit, carpool or other modes of travel.

On weekends, capacity currently exists to accommodate the project parking demand, although most of the available supply is on surface lots north of the project site.

If the Port of San Francisco garage is built under Block 202 (as described in **Section B7**), some additional parking spaces would be available to accommodate the parking demand generated by the Butterfly Discovery Park, as well as demand generated by the Ferry Building, Pier 1 and other existing uses in the area.

The project would displace motorcycle and vehicle parking on Drumm Street between Clay and Washington Streets, which would further increase the demand for parking at the off-street facilities. As an improvement measure, DPT should consider relocating the motorcycle parking spaces to another location. A potential location would be a portion of the Davis Street extension between Washington and Clay Streets (DPT anticipates on-street parking to be provided on both sides of the street).

(iv) Pedestrian Impacts

Pedestrian trips include trips by walk and other modes, as well as trips by public transit and auto, that would then walk from off-site parking, the bus, LRT or train station to the project site. During the Weekday Midday and PM peak hours, there would be approximately 272 person-trips (136 inbound and 136 outbound during the Midday peak hour, and 103 inbound and 170 outbound during the PM peak hour).

The addition of project-generated pedestrian traffic would not substantially affect conditions at the study locations. All crosswalks would operate at conditions of LOS C or better. Appendix D of the Transportation Study contains the detailed calculations of the LOS analysis.

The pedestrian analysis assumes the construction of the pedestrian bridge between the two buildings. If the bridge is not constructed, there would be additional pedestrians at the crosswalks crossing Drumm Street at both Clay Street and Washington Street. A sensitivity analysis indicates that the north crosswalk would operate at LOS B during the weekday Midday and PM peak hour conditions, as compared with LOS A with the construction of the pedestrian bridge.

A qualitative assessment of the conditions at the intersection of Clay Street and Davis Street indicates that the addition of the project-generated trips to both the vehicle and pedestrian volumes at the intersection would contribute to the potential for conflicts. The extension of Davis Street, which would include signalization of the intersection, would substantially reduce the potential for conflicts.

As indicated in **Section C2 (b), Existing Plus Project Conditions,** the construction of a garage by the Port of San Francisco under the proposed project on Block 202 could potentially affect traffic and pedestrian conditions in the project area. The anticipated garage entrance/exit on Drumm Street north of Clay Street would result in conflicts between vehicles entering and exiting the garage and pedestrians walking on the east curb of Drumm Street, including visitors to the proposed project. The provision of the pedestrian bridge between the two buildings of the proposed project would reduce the potential for conflicts between vehicles destined to and from the garage and trips between the two buildings using the intersection of Clay and Drumm Streets. The impacts to traffic and pedestrian conditions as a result of the garage would be less than significant, with or without the proposed pedestrian bridge.

(v) Bicycle Impacts

Bicycle access to the area would not change substantially with the development of the project. The project would result in an increase in the number of vehicles in the project area. However, in itself this increase would not be substantial enough to affect bicycle travel in the area. In addition, the project would provide bicycle accommodations, including showers, lockers, and secured bicycle spaces (between 30 and 60 spaces in the landscaped park area).

(vi) Loading Impacts

Loading impacts were assessed by comparing the proposed loading space supply to the *Planning Code* requirements and estimated loading demand during an average hour. Based on the San Francisco *Transportation Guidelines*, project-loading impacts are determined by comparing the proposed loading space supply to the estimated demand during the peak loading hour.

Freight Delivery and Service Vehicle

The proposed project would provide one off-street freight loading space within each of the buildings. Off-street loading for the Phase I (Block 202) building would be provided off of Drumm Street north of Clay Street. Off-street loading for the Phase II (Block 203) building would be provided off of Clay Street east of Davis Street. The proposed loading spaces would meet the *Planning Code* requirements for freight loading and service vehicle spaces, and would be sufficient to accommodate the anticipated loading demand.

Passenger Loading

A passenger loading zone of about 260 feet in length would be provided on the west side and 160 feet on the east side of Drumm Street between Clay and Washington Streets. These passenger loading bays would displace the existing metered vehicle and motorcycle parking spaces (a total of ten 30-minute metered vehicle and 62 daily metered motorcycle spaces). The passenger loading zone would accommodate both passenger vehicles and school/tour buses dropping off and picking up visitors. On both the west and east curbs, the northern 100 feet would be set aside for buses only (during periods of group tours), and would accommodate a total of four buses (a loading area of about 50 feet in length is desirable for each bus). In addition, about 160 feet of white passenger zone at the curb would be provided on the west side of Drumm Street (accommodating about eight passenger cars) and 60 feet on the east side of Drumm Street (accommodating three passenger cars).

As indicated in **Section C2(a) Project Travel Demand Analysis, (i) Trip Generation,** about 20 percent of visitors to the proposed project are anticipated to be group visits that would occur via school/tour bus, private autos (parent drivers), or public transit (MUNI or BART). If all of the group visitors travel by bus there would be about nine buses arriving and departing on a daily basis (the use of public transit would reduce the number of trips to and from the project site).

The museum and learning center would attempt to disperse the arrivals and departures of visits by groups through advanced scheduling of group tours. The duration and timing of visits by school groups, in particular, however, would likely extend to include the periods before/after the scheduled tour times, as the tours may be combined with lunch or other activities in the area, due to constraints of school schedules and school bus availability. As a result, bus passenger drop-off and pick-up activities would likely be concentrated, and the curb space needed along Drumm Street may exceed the four spaces provided, particularly during seasonal peaks.

As indicated above, there may be peak periods of demand during which the four bus loading spaces would not be sufficient to accommodate the demand, which may result in the double-parking of buses on Drumm Street. Double-parking of buses would affect traffic operations and the safety of pedestrians accessing the buses. These conditions are likely to occur during the school year when there are peaks in the number of field trips (fall, Christmas season, spring). In order to reduce the potential for traffic disruptions and other conflicts along Drumm Street and other nearby streets, the Project Sponsor has agreed to be responsible for advance identification of all aspects of passenger loading needs for all group tours, which would be allowed only through advanced reservations. When the potential need for curb space for passenger activities by buses, vans and/or autos may exceed the amount of space normally available along Drumm Street, the project sponsor would be responsible for obtaining a permit from the Department of Parking and Traffic (DPT) to bag parking meters at curbs near the project site[3] to provide additional space for passenger loading/unloading activities and bus parking.. Two potential locations for these activities have been identified – the 12 metered (30-minute meters) spaces on the north curb of Washington Street between Drumm Street and the planned Davis Street extension, and the west curb of the planned Davis Street extension between Washington and Clay Streets. Up to four buses could be accommodated at each location.

Since no bus storage would be provided on-site, buses would need to leave the loading/unloading bay once all passengers have left the bus, and layover at an unspecified off-site location. The project sponsor would identify and select a location for off-site bus layovers, and contract for the use of the site. Two off-site bus parking areas would be made available to groups using buses to transport visitors to the project site. Bus operators would not be required to utilize these areas, and may choose to layover at a different location. Potential off-site layover areas for the buses between drop-off and pick-up times that have been identified by the project sponsor include Bauer's Limousine, Pier 27, SF Tour Guild at Fisherman's Wharf, Pier 30/32, the PacBell Ballpark parking lot, and the 3 Com Park stadium parking lot. Depending on the time of day, travel to these sites would vary between 10 and 30 minutes.

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[3] Per Section 202E Permits for Exclusive Use of Temporary Use of Parking Meter Zones, San Francisco Traffic Code.

If the passenger loading/unloading zone on Drumm Street is utilized for bus layover while groups are visiting the Butterfly Discovery Park, there could be double-parking of buses on Drumm Street, with associated impacts as noted previously. Improvement measures to ensure that the passenger areas are available for loading/unloading and that double-parking does not occur on Drumm Street would be pursued by the project sponsor:

- Active monitoring of drop-off and pick-up activities;
- Bagging of meters on the west curb of the Davis Street Extension and north curb of Washington Street during peak tour periods; and
- Providing bus parking on a portion of the planned Davis Street extension.

Other actions that should be explored by the DPT to address tour bus parking for downtown facilities include:

- Converting a portion of the on-street parking spaces on the west side of The Embarcadero between Washington Street and the Ferry Building to tour bus parking; and
- Exploring converting portions of City-owned lots for tour bus parking.

Even if these measures can not be implemented or are not successful, the double parking, congestion, and inconveniences associated with passenger loading would be of limited duration and would only occur from time to time. For these reasons, unmet loading demand would in this case not be considered a significant environmental effect.

Drivers dropping off or picking up passengers by passenger car would have a total of 11 spaces (on both sides of Drumm Street) when the four bus parking spaces are utilized for buses. These spaces would generally be sufficient to accommodate the demand. The museum and learning center would be responsible for effective management of visits by groups and for ensuring that the designated passenger zones are not occupied by waiting vehicles, in order to reduce the potential for double parking and disruptions to traffic operations on Drumm Street and other area streets.

On either side of Drumm Street, a visitor waiting area would be designated within the project site boundaries to accommodate visitors to the proposed project. This waiting area would be about 125 feet in length and about 10 feet deep, providing an area of about 1,250 square feet. The area could accommodate between 130 and 180 adults comfortably (LOS C queuing conditions, with standing and partially restricted circulation by disturbing others within the queue), without affecting sidewalk operations. The area would be sufficient to accommodate two buses letting out passengers at once on the same side of the street, as well as to stage passengers prior to boarding the buses. Entrances to the project Phase I building would be located mid-building adjacent to the park as well as on the Justin Herman

Plaza side; the entrance to the Phase II building would be adjacent to the visitor waiting area on Drumm Street.

(vii) Construction Impacts

Construction of Phase I, Block 202, is expected to take approximately 30 months. The start of construction would occur in Fall 2003, with completion scheduled for Spring 2006. Construction of Phase II, Block 203, would also take 30 months, with the start of construction in 2010 and completion scheduled for 2013. It is anticipated that the construction of Phase I and Phase II would have similar construction schedules (phases and duration), truck utilization and worker profiles.

Construction would be scheduled to take place Monday through Friday, exclusive of recognized holidays. There may be a few weekend days when it would be necessary to move items to the site. These few occasions would be scheduled to avoid weekday commute traffic.

There would be a total of six construction phases: five for construction of the base building, and one for interior installation. It is anticipated that there would be some overlap between the phases.

There would be a flow of trucks in and out of the construction site during each of the construction phases. The peak of construction truck traffic would occur during the pouring of the foundation (construction phase 2), when there would be 20 trucks arriving and departing the site on a daily basis. On average, however, there would be three trucks arriving and departing the site during this phase. The impact of construction truck traffic would be a temporary lessening of the capacities of streets due to the slower movement and larger turning radii of trucks. The reduction in capacity would slow the movement of traffic, including MUNI and Golden Gate Transit buses operating along The Embarcadero, and the MUNI 1-California line on Clay Street.

Any construction traffic occurring between 7:00 and 9:00 AM or between 3:30 and 6:00 PM would coincide with peak hour traffic and could impede traffic flow, although it would not be considered a significant impact. To the extent possible, limiting truck movements to the hours between 9:00 AM and 3:30 PM (or other times, if approved by DPT) would minimize disruption of the general traffic flow on adjacent streets during the AM and PM peak periods.

Due to the high costs of automobile parking downtown, it is anticipated that many construction workers would take public transportation to the site. The construction workers that drive would create a temporary parking demand. Those construction workers that drive would park in the publicly-accessible garages and lots to the north of the site that currently have available capacity.

Construction staging would occur primarily within the site, and other construction staging areas may be identified. Staging for the major construction materials would take place off site on one of the several open lots in the southern part of the City, which are used for that purpose. Materials would be trucked to the site as needed during non-peak hours. Subsequent to erecting the structural frame, there would be ample open space on the site for staging. During the remaining construction time, materials would be delivered to the site as needed and stored in open space on site or within the structure.

Construction during Phase I would require the closure of the sidewalks on the east side of Drumm Street between Clay and Washington Streets during the first 15 months of construction. Pedestrians would be directed to the sidewalk on the west side of Drumm Street. Closure of the parking lane along Drumm Street between Clay and Washington Street would also be required during the same 15 months. Subsequent to base building construction, temporary use of this parking lane would be required for periodic load-in of show-sets, fixtures, furniture and equipment. MUNI service would not be affected by the sidewalk or lane closures.

Phase II would require the closure of the sidewalks on the north side of Clay Street, between Davis and Drumm Streets, and the west side of Drumm Street between Clay and Washington Streets during the first 15 months of construction. Pedestrians would be directed to use the sidewalk on the east side of Drumm Street between Clay and Washington Streets, and the south side of Clay Street between Davis and Drumm Streets. The parking lanes requiring closure during the same 15 months include the west side of Drumm Street between Clay and Washington Street, and the north side of Clay Street between Davis and Drumm Streets. Subsequent to base building construction, temporary use of these parking lanes would be required for periodic load-in of show-sets, fixtures, furniture and equipment. MUNI service would not be directly affected by the sidewalk or lane closures; however, during the PM peak period, the parking lane on Clay Street between Davis and Drumm Streets is currently a tow-away lane that provides additional vehicle capacity for eastbound traffic. The removal of this capacity for 15 months could result in additional congestion and conflicts on this segment, which may affect the MUNI layover operations during the PM peak period.

It is not anticipated that traffic lanes would need to be closed during construction. If traffic lane closures are needed, they would be coordinated with the City in order to minimize the impacts on local traffic. In general, lane and sidewalk closures are subject to review and approval by the Department of Public Works (DPW). Any relocation would be coordinated with MUNI's Chief Inspector.[4]

It is expected that construction truck traffic from the Peninsula would access the construction site via I-80 to the Fourth Street off-ramp or I-280 to the King Street off-ramp to The Embarcadero. Trucks leaving the site and destined to the Peninsula would use The Embarcadero to the I-80/U.S. 101 on-ramp at Fourth Street or to the I-280 King Street on-ramp. Truck traffic from the East Bay would access the site via westbound I-80 to the Fremont Street off-ramp to Harrison and to The Embarcadero. Truck traffic leaving the site and destined to the East Bay would use The Embarcadero, Harrison Street, and the First Street on-ramp to eastbound I-80. Local construction trucks originate in the southern part of the City.

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[4] MUNI's Chief Inspector is currently Len Olsen, and can be reached at 415-554-9286.

They would travel on major surface streets leading to Third Street and The Embarcadero, and use Washington Street to access the site.

The project sponsor and construction contractors would meet with the Traffic Engineering Division of the DPT, the Fire Department, MUNI, and the Planning Department to determine feasible measures to reduce traffic congestion, including potential transit disruption and pedestrian circulation impacts during construction of the proposed project. The temporary parking demand by construction workers would need to be met on site or within other off-site parking facilities. The contractor would need to determine the location of an off-site parking facility for construction workers during the construction period. Because these measures would be taken, and any disruption that could still occur would be temporary, construction impacts would not be considered significant

C2(c) Future Year 2015 Cumulative Conditions

(i) Traffic Impacts

Future Year 2015 Cumulative traffic volumes were based on the work effort for the *Alternatives to Replacement of the Embarcadero Freeway and the Terminal Separator Structure Project* and the *Transbay Terminal Redevelopment Area Plan Transportation Report* study. The *Transbay Terminal Redevelopment Area Plan Transportation Report* development of future Year 2015 background conditions was based on the Metropolitan Transportation Commission's (MTC) regional travel demand model, which was adjusted in 1997 to reflect recent development plans for a number of large projects within San Francisco, including the Mission Bay development, the Transbay Terminal Area Plan and the Giants Ballpark.

Tables 3.2-5, Intersection Level Of Service: 2015 Cumulative Conditions Weekday PM Peak Hour and **3.2-6, Intersection Level of Service: 2015 Cumulative Condition Weekends Midday Peak Hour** present the results of the future Year 2015 Cumulative intersection LOS analysis for weekday PM and weekend Midday peak hour conditions, respectively. The improvements associated with the reconstruction of The Embarcadero between Broadway and Folsom Street were incorporated into the analysis. Under future year 2015 conditions, average vehicle delays are projected to increase from existing conditions at the study intersections, although all signalized intersections would operate at LOS D or better. The intersection of Clay Street and Davis Street would be signalized under the Garage and Revised Roadway Scenario and would operate at LOS B. Therefore, the project would not result in significant cumulative impacts.

Table 3.2-5
Intersection Level of Service:
2015 Cumulative Conditions
Weekday PM Peak Hour

	Existing Roadway Scenario		Garage and Revised Roadway Scenario	
Intersection	**Delay**[1]	**LOS**	**Delay**	**LOS**
Washington Street / Battery Street	11.2	B	13.3	B
Washington Street / Drumm Street	9.6	B	10.2	B
Washington Street / The Embarcadero	20.0	C	24.2	C
Clay Street / Davis Street [2]	-- [2]	-- [2]	9.0	B
Clay Street / Drumm Street	8.6	B	8.9	B

Source: Wilbur Smith Associates, December 1999.
Notes:
1. *Delay = average delay per vehicle in seconds*
2. *Under the Existing Roadway configuration the intersection of Clay Street and Davis Street is uncontrolled. Clay Street is one-way eastbound, while Davis Street is one-way southbound. The only turning movement at this intersection is right turns from Clay Street onto Davis Street. Under the Revised Roadway configuration, this intersection would be signalized.*

Table 3.2-6
Intersection Level of Service:
2015 Cumulative Conditions
Weekend Midday Peak Hour

	Existing Roadway Scenario		Garage and Revised Roadway Scenario	
Intersection	**Delay**[1]	**LOS**	**Delay**	**LOS**
Washington Street / The Embarcadero	14.7	B	15.1	C

Source: Wilbur Smith Associates, December 1999.
Notes:
1. *Delay = average delay per vehicle in seconds*

(ii) Transit Impacts

MUNI

The screenline analysis is based on the work conducted for the *Transbay Terminal Redevelopment Area Plan Transportation Study,* updated to reflect 1997/1998 ridership data. Between Existing and 2015 Cumulative conditions, ridership at the MUNI screenlines is projected to increase by about 11,260 passengers (this increase includes the transit trips generated by the proposed project that would utilize MUNI), while capacity is projected to increase by about 1,980 passengers. The projected ridership is expected to approach or exceed the capacity at all screenlines. The 19 proposed project-generated trips that would cross the MUNI screenlines would have a minimal contribution to the cumulative transit ridership, and alone would not substantially affect the peak hour capacity utilization of each screenline.

Regional Transit Providers

The regional screenline analysis is based on the work conducted for the *Transbay Terminal Redevelopment Area Plan Transportation Study* and the *Mission Bay Final SEIR*. Between Existing and 2015 Cumulative conditions, ridership is projected to increase by about 10,560 passengers at the East Bay screenline, by about 1,130 passengers at the North Bay screenline, and by about 6,340 passengers at the South Bay screenline. The projected ridership is expected to exceed the capacity at the East Bay screenline, whereas the North Bay and South Bay screenlines would operate at less than 100 percent of capacity. The proposed project would have a minimal contribution to the cumulative transit ridership (less than one percent), and alone would not substantially affect the peak hour capacity utilization of each screenline.

For the 2015 Cumulative conditions, BART to the East Bay would operate with a three-hour performance standard of 114 percent, slightly less than the 115 percent standard. AC Transit would operate with a capacity utilization of 135 percent, primarily due to the fact that no capacity increases for the Transbay routes have been programmed by AC Transit. It is anticipated that overcrowded conditions and substantial delays per passengers would result. Continued growth in demand may prompt a re-evaluation of the service provided.

The AC Transit Board approved three phases of service improvements that were to be implemented in 1998 and 1999. Phase I involves the minor changes to the Transbay routes serving the Richmond, El Cerrito and Hayward areas. These changes include the rerouting of various lines, increasing the number of trips, minor schedule adjustments and a new route. Phase II involves changes to the Transbay routes serving Berkeley, Emeryville and Oakland, including route extensions, additional trips, additional stops, rerouting of some lines, the removal of two routes and the addition of two routes. Phase III involves the establishment of a new route between San Francisco, downtown Oakland and the Oakland International Airport. The effects of these changes, as well as possible changes in ridership due to fare increases, have not been determined. However, it is not anticipated that the ridership would change substantially, and the overall screenline capacity utilization would not be affected. The proposed project would have a minimal contribution to the cumulative transit ridership (less than one percent), and alone would not substantially affect the peak hour capacity utilization of each screenline.Therefore, the impacts would be less-than-significant.

(iii) Construction Impacts

Construction activities associated with the proposed project would likely occur at the same time as other ongoing and proposed projects in the vicinity of the site. The construction activities associated with these projects would affect access, traffic operations, bus operation and pedestrian movements. Projects include:

- The retrofit of the superstructure of the west span of the Bay Bridge, which started in late 1999 and will last about two years;
- The retrofit of the western approach of the Bay Bridge, which started in 1999 and will continue into 2004;
- The renovation and rehabilitation of the Ferry Building, which is scheduled for completion in 2002; and
- Development projects, including the planned hotel at the Steuart Street MUNI bus layover facility (construction anticipated to start in July 2001 and continue into 2003).

The construction cycles of each of these projects would differ depending on the location and scale of the project. In combination, the potential simultaneous construction of these projects may result in temporary increased congestion in the area, plus inconveniences to motorists, pedestrians and transit patrons. In order to reduce the combined effect of these construction impacts, each individual project sponsor would work with various departments of the City (Department of Parking and Traffic, MUNI, the Fire Department, etc.) to develop a detailed and coordinated plan that would address construction vehicle routing, traffic control and pedestrian movements on specific streets in the construction area.

A. INTRODUCTION

The Initial Study, published on December 3, 1999, determined that the project would have no negative aesthetic effects and would not result in any impacts related to landform modification or light or glare. As such, these topics are not discussed in this EIR section. This section focuses on impacts related to the obstruction or alteration of scenic views and the removal of trees.

B. EXISTING CONDITIONS

B1. Project Site and Vicinity

The project site is located in the Financial District of downtown San Francisco, on a 230,550-square-foot (5.29-acre) site consisting of Assessor's Blocks 202 and 203. Block 202 is bounded by The Embarcadero roadway on the east, Washington Street on the north, the Four Embarcadero Center loading driveway on the south, and Drumm Street on the west. Block 203 is bounded by Drumm Street on the east, Washington Street on the north, Clay Street on the south, and the Davis Street right-of-way on the west. The surrounding area is entirely urbanized, and consists primarily of a mixture of high-rise and low-rise office, commercial, and residential buildings. A swimming and recreation club is located directly north of the site, and the San Francisco Bay is located to the east of the site across The Embarcadero.

The site is currently used primarily as public open space. Block 202 contains a large turf area, paved walking paths, groups of trees, and a gazebo/sitting area. Block 203 contains a smaller turf area, trees, pedestrian paths, and elevated decks and a pedestrian bridge connecting to the Maritime Plaza podium-level open space area to the west (Alcoa Plaza). On one of the decks leading to the pedestrian bridge is a sculpture entitled "Movement: The First 100 Years," which commemorates U.S.-Korea relations. In the northeast corner of Block 203, a 1,750-square-foot non-operating pump station building is located within a 7,150-square-foot fenced maintenance yard.

Block 202 is generally flat; the eastern part of the block contains a small, grass-covered knoll. Block 203 rises gently from its southern, eastern, and northern boundaries toward the elevated decks and pedestrian bridge in the western part of the block. Elevations range from 0 feet above mean sea level at the eastern boundary of Block 202 to 14 feet at the western boundary of Block 203.

Vegetation on the site consists of landscaped lawns and non-native trees as well as some ornamental understory shrubs and smaller plants. The majority of the trees on the site are poplars, with lesser numbers of flowering plum, several species of eucalyptus, several pines, and other species. Sycamores are planted along several of the sidewalks. Some areas in the vicinity of the site contain landscaping with trees, English ivy, or smaller flowering plants.

B2. Existing Off-Site Views

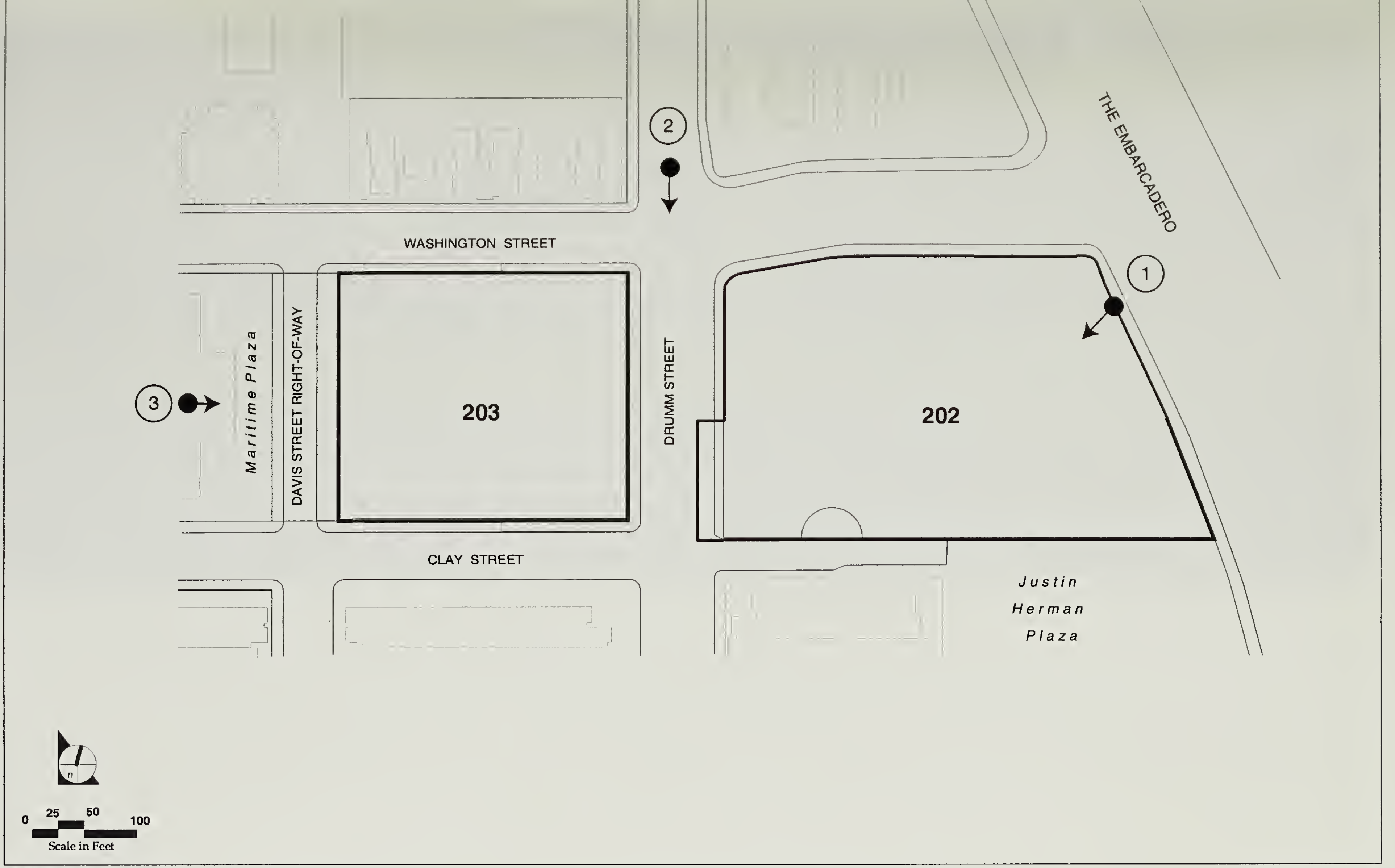
Three viewpoints of the project site from publicly-accessible areas adjacent to the site were selected for analysis. These viewpoints were determined by San Francisco Planning Department staff to be representative views of the site from off-site locations. All the selected viewpoints provide short-range views of the site; no long range views were evaluated because the project site is not visible from any distant publicly-accessible locations due to intervening buildings. **Figure 3.3-1, Key to Viewpoints,** depicts the locations of the selected viewpoints; **Figures 3.3-2 through 3.3-4** provide photographs of the viewpoints selected.

B2(a) Viewpoint 1: The Embarcadero, Southbound

The view from the west side of The Embarcadero is shown in **Figure 3.3-2, Existing View 1, Looking Southwest from The Embarcadero**. The view direction shown is southwest, and is representative of what a pedestrian would see if walking along the eastern sidewalk of Block 202 (although at the time the photograph was taken, the sidewalk had been removed as part of construction on The Embarcadero). The open turf area on Block 202 is visible in the foreground. As shown, trees on Block 202 are primarily located around the perimeter of the block and near the gazebo/sitting area visible in the right-hand side of the image. Four high-rise buildings dominate the mid- and background of the view: Four Embarcadero Center on the left, Three and Two Embarcadero Center in the middle (from left to right) and One Maritime Plaza on the right. Block 203 is located between the gazebo structure and One Maritime Plaza; the only visible features on Block 203 in this view are a dense cluster of trees. Long-range views from this viewpoint are blocked by the high-rise buildings in the background.

B2(b) Viewpoint 2: Drumm Street, Southbound

The view from Drumm Street southbound is shown in **Figure 3.3-3, Existing View 2, Looking South on Drumm Street**. This view is from the middle of the intersection of Washington and Drumm Streets. The foreground of this image primarily consists of Washington Street. In the midground, Block 202 is on the left side of the image, with the gazebo/sitting area visible between the trees in the northwest corner of the block. Block 203 is on the right side of the image; a portion of the Public Utilities Commission pump station building is visible along the right side of the photo. As shown, both sides of Drumm Street contain mature trees along the perimeter of the project site. In the background, Four Embarcadero Center is visible on the left side of Drumm Street and Three Embarcadero Center is visible on the right side of Drumm Street. Long-range views looking down Drumm Street consist of high-rise buildings along Market Street.



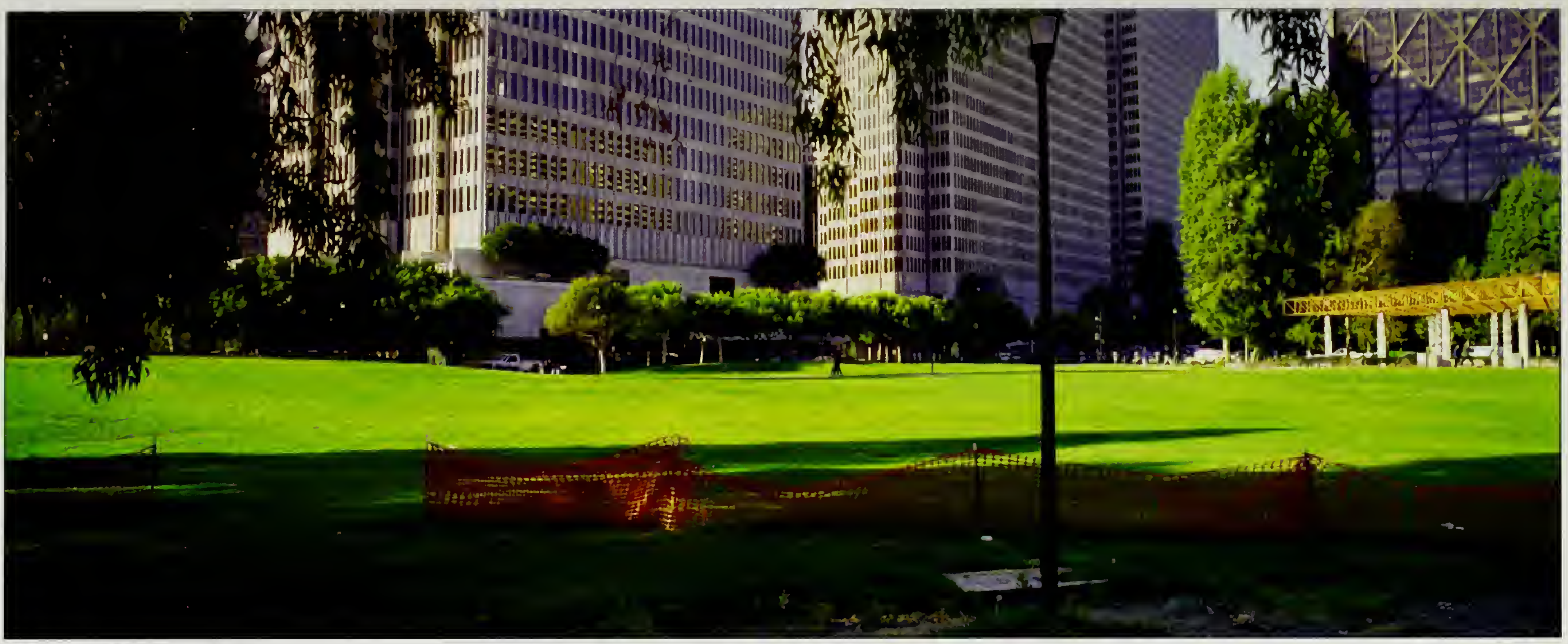
SOURCE: Impact Sciences

FIGURE **3.3-1**

Key to Viewpoints

394-01•11/99

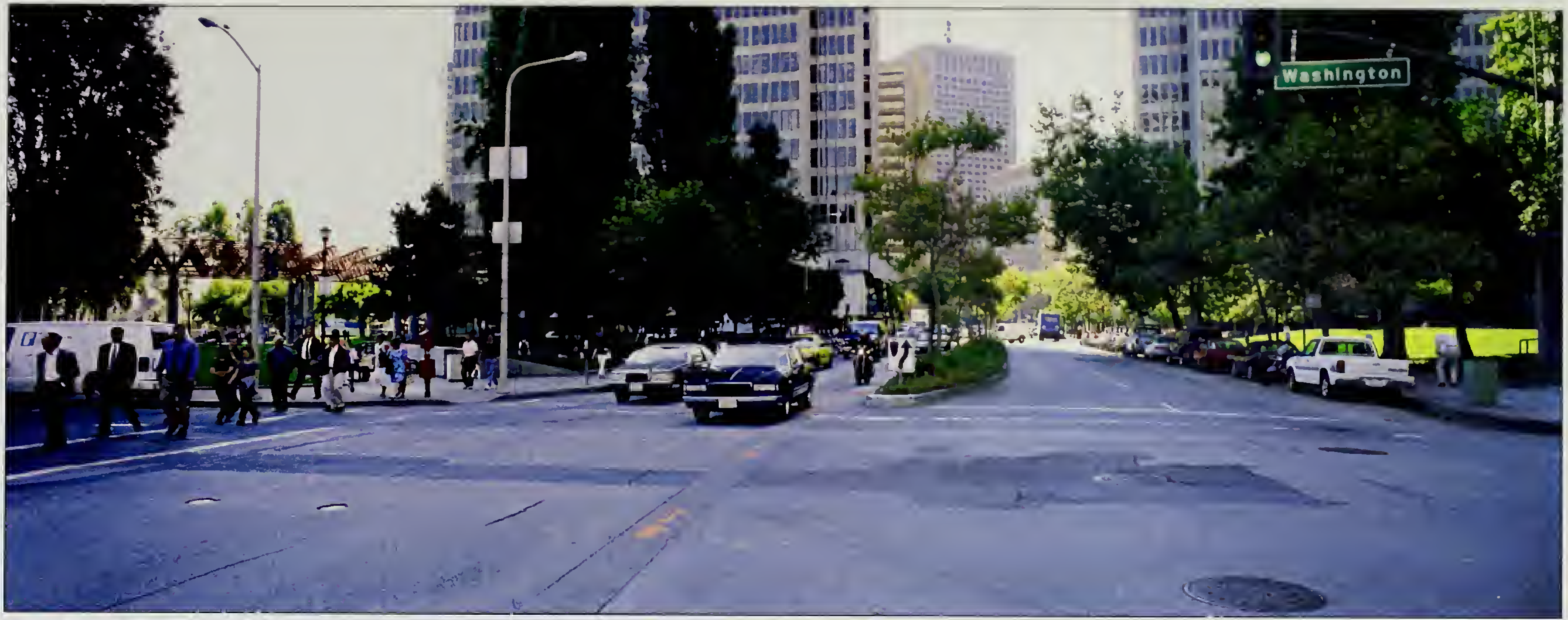
BUTTERFLY DISCOVERY PARK



SOURCE: Square One Productions

FIGURE 3.3-2

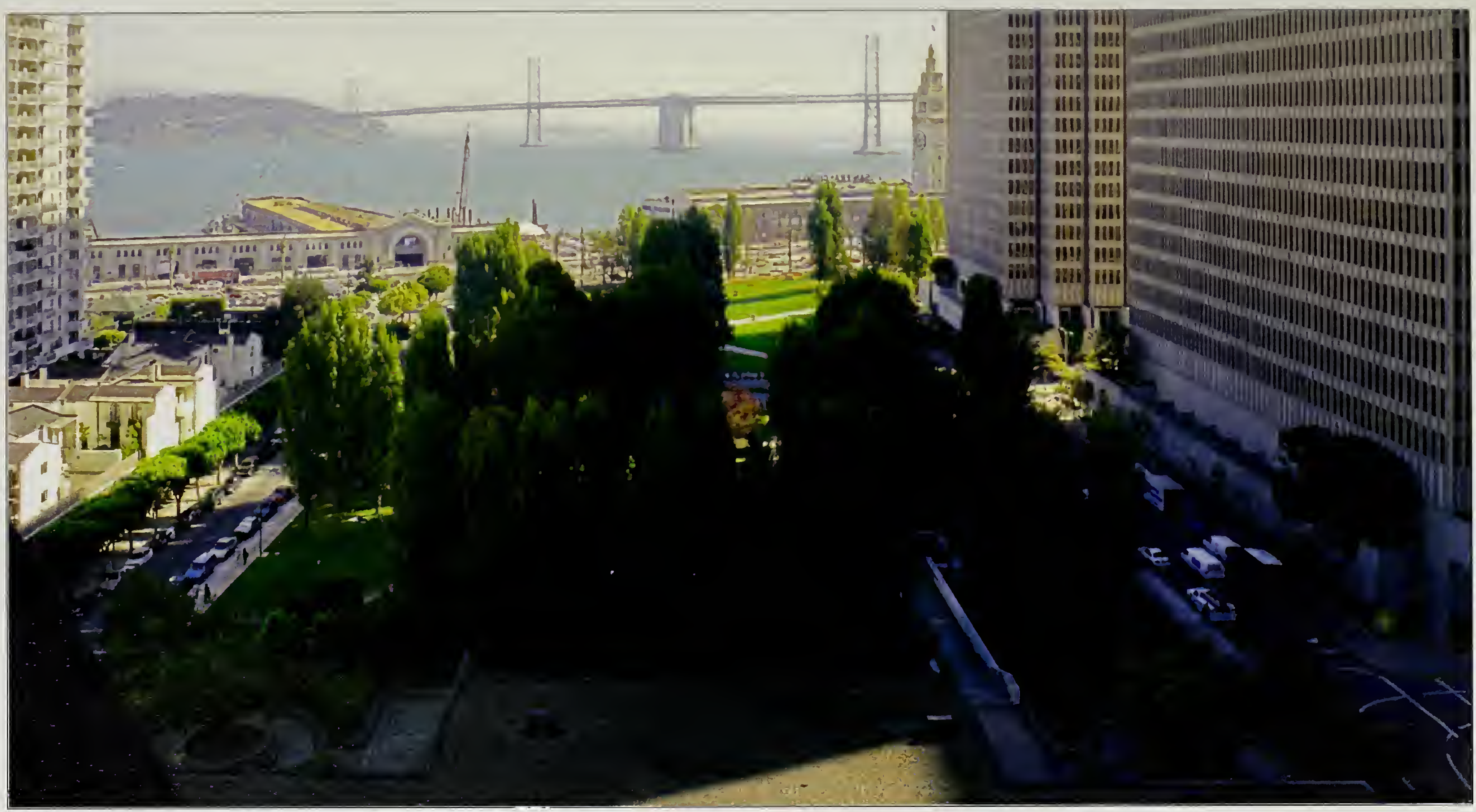
Existing View 1, Looking Southwest from The Embarcadero



SOURCE: Square One Productions

FIGURE 3.3-3

Existing View 2, Looking South on Drumm Street



SOURCE: Square One Productions

FIGURE 3.3-4

Existing View 3, Looking East from One Maritime Plaza, 9th Floor

B2(c) Viewpoint 3: One Maritime Plaza, East Side

The view from the 9th floor of the One Maritime Plaza office tower is shown in **Figure 3.3-4, Existing View 3, Looking East from One Maritime Plaza, 9th Floor.** Although not a publicly-accessible location, this elevated vantage point was used in order to better illustrate the changes resulting from the project over the entire site. A public open space area (Alcoa Plaza) is present on the podium level of the Maritime Plaza office complex, below this viewpoint. Views from Alcoa Plaza would be less encompassing than shown in the photograph because of the presence of trees in the foreground.

In the foreground, the roof of the plaza-level office building and portions of the Alcoa Plaza podium-level open space are visible. The midground of the view is dominated by the mature trees on Block 203. The existing pedestrian bridge from Block 203 to Maritime Plaza is visible in the right-center of the image; the elevated decks and sculpture on Block 203 are obscured by trees. Portions of the turf areas on Block 202 are visible in the far midground, beyond the trees. In the background, the Ferry Building is visible on the right and Pier 1 on the left.

On the right side of the view, Three Embarcadero Center is visible in the close midground and Four Embarcadero Center is visible in the far midground. On the left side of the image, the Golden Gateway residential townhomes are visible along Washington Street, with the William Heath Davis residential tower visible along the left side of the photo.

Long-range views from this viewpoint consist of San Francisco Bay, the Oakland-Bay Bridge, and Yerba Buena Island.

B3. Trees

As discussed above, the site contains approximately 194 non-native trees, most of which are poplars with a lesser number of flowering plum, eucalyptus, and other species. The most visually prominent trees are located on Block 203. On Block 203, trees are clustered around the pump station building and maintenance yard, and around the elevated decks and pedestrian bridge leading to Maritime Plaza. On Block 202, trees are generally located around the perimeter of the block, with a cluster located near the gazebo/sitting area.

C. PROJECT IMPACTS

C1. Significance Threshold Criteria

Design and aesthetics are by definition subjective, open to interpretation by decisionmakers and members of the public. A proposed project would therefore be considered to have a significant adverse effect on visual quality only if it would cause a substantial and demonstrable negative change, such as construction of an industrial facility in a pristine, natural area. As noted earlier, negative aesthetic effects and impacts related to landform modification and light and glare were determined to be less than significant in the Initial Study, and are not discussed in this EIR section.

However, the Initial Study noted that the project could result in significant impacts related to the obstruction or alteration of scenic views, or the removal of trees. As evaluated in this EIR, the project would have a significant impact if it results in damage to or removal of scenic resources or substantial obstruction or impairment of views from publicly-accessible locations. Impacts to private views are not in themselves considered significant in this EIR.

C2. Impacts of the Proposed Project

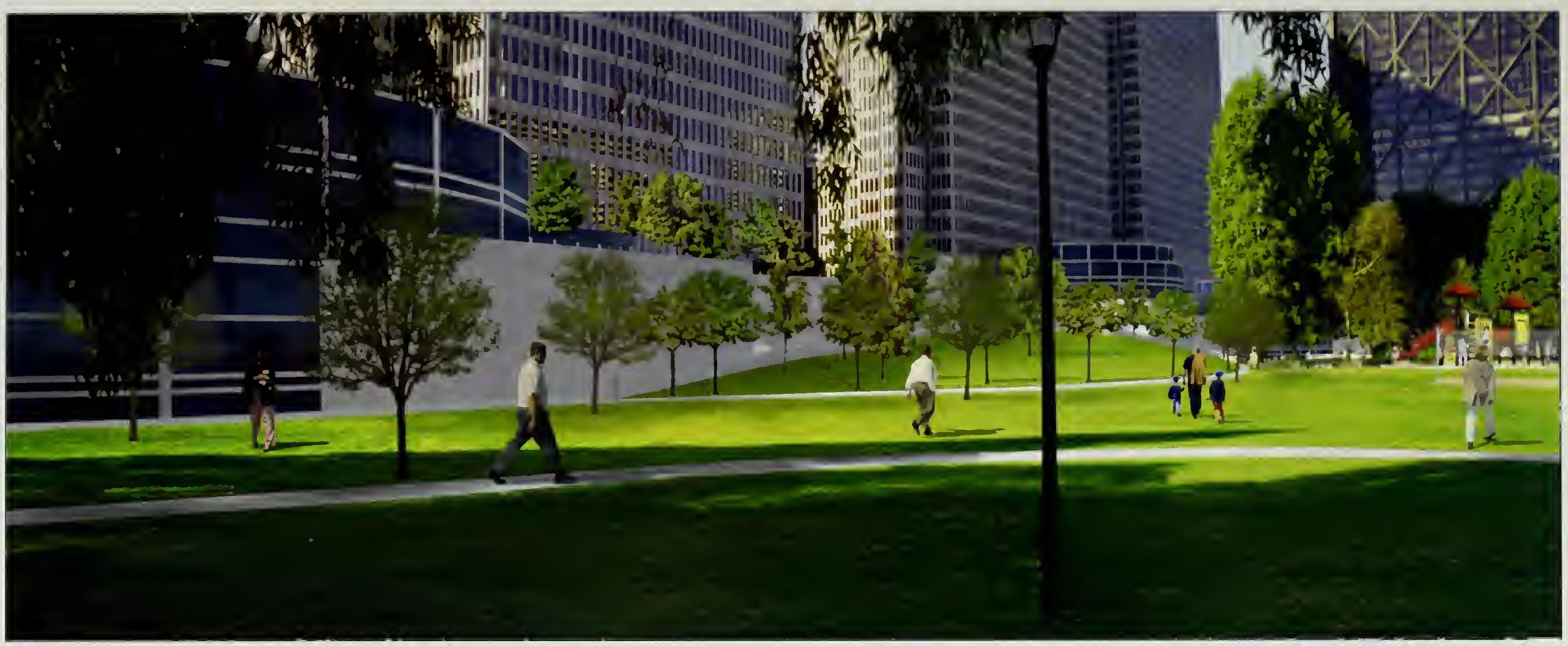
C2(a) View Obstruction or Impairment

The proposed project would result in the alteration of views by introducing museum buildings to Blocks 202 and 203. Computer-generated visual simulations were prepared for the three views of the project site discussed in the Existing Conditions portion of this section, and are shown in **Figures 3.3-5 through 3.3-7.** Utilizing the proposed site plan and building elevations, a digital model of the project was created. This model was then superimposed on the existing viewpoint photographs to create a simulated photo of project development. It should be noted that the visual simulations are only massing diagrams, intended to illustrate the height and bulk of the proposed buildings, and do not represent the actual design or architectural features of the proposed project. Tree removals resulting from building development were included in the simulations; however, because a specific landscaping plan has not been developed, the actual number of proposed new trees and shrubs could be different than shown.

(i) The Embarcadero Southbound

Figure 3.3-5, View 1 with Project, Looking Southwest from The Embarcadero, shows a simulated view of the project site after development from the west side of The Embarcadero. The proposed museum would be visible on Block 202 directly in front of the Three and Four Embarcadero Center buildings, replacing a portion of the open turf area and trees in the midground of the view. The museum buildings would be visible stretching west on the site toward the Maritime Plaza office complex.

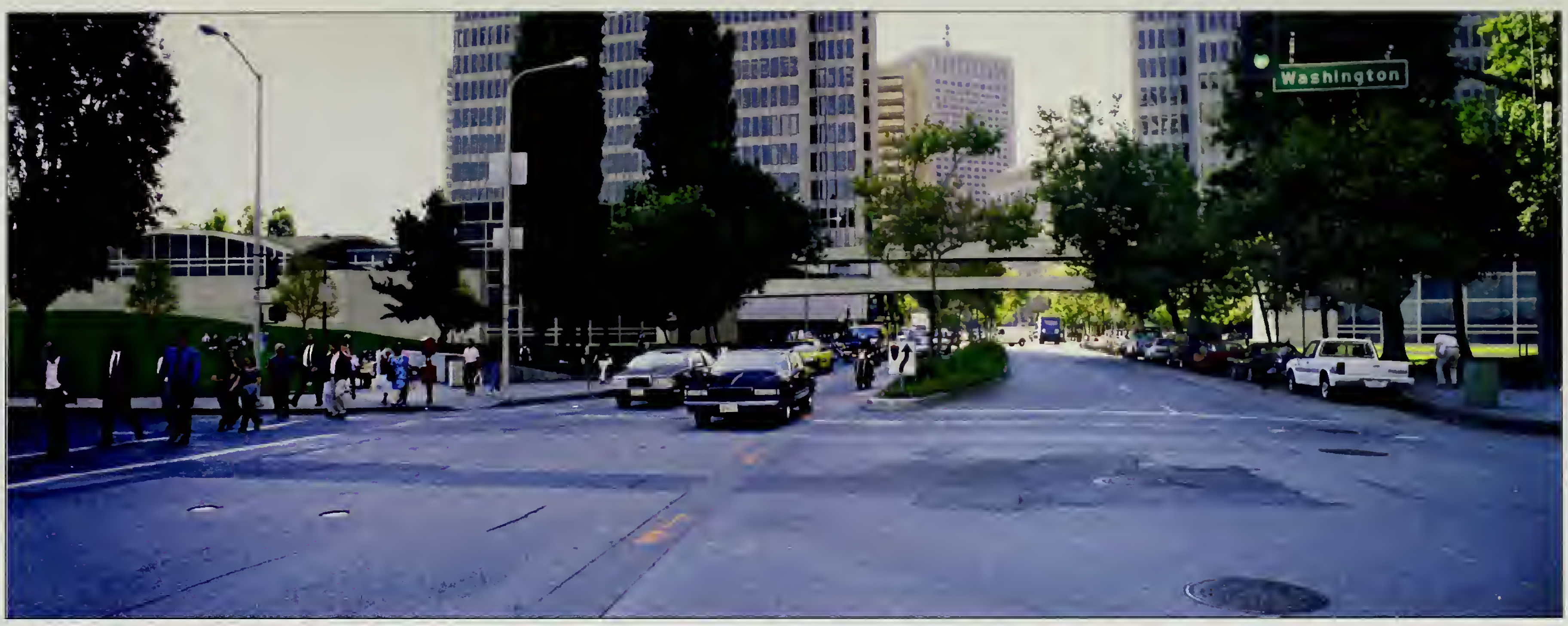
As noted previously, at this time the project landscaping plan has not been finalized. As such, it is not known whether the grass areas in the foreground would remain as open turf or would be entirely or partially replaced by shrubs or trees. Trees or shrubs planted in the foreground could partly obstruct views of the museum buildings from The Embarcadero. Removal of the gazebo structure would not substantially alter the view from this viewpoint.



SOURCE: Square One Productions

FIGURE 3.3-5

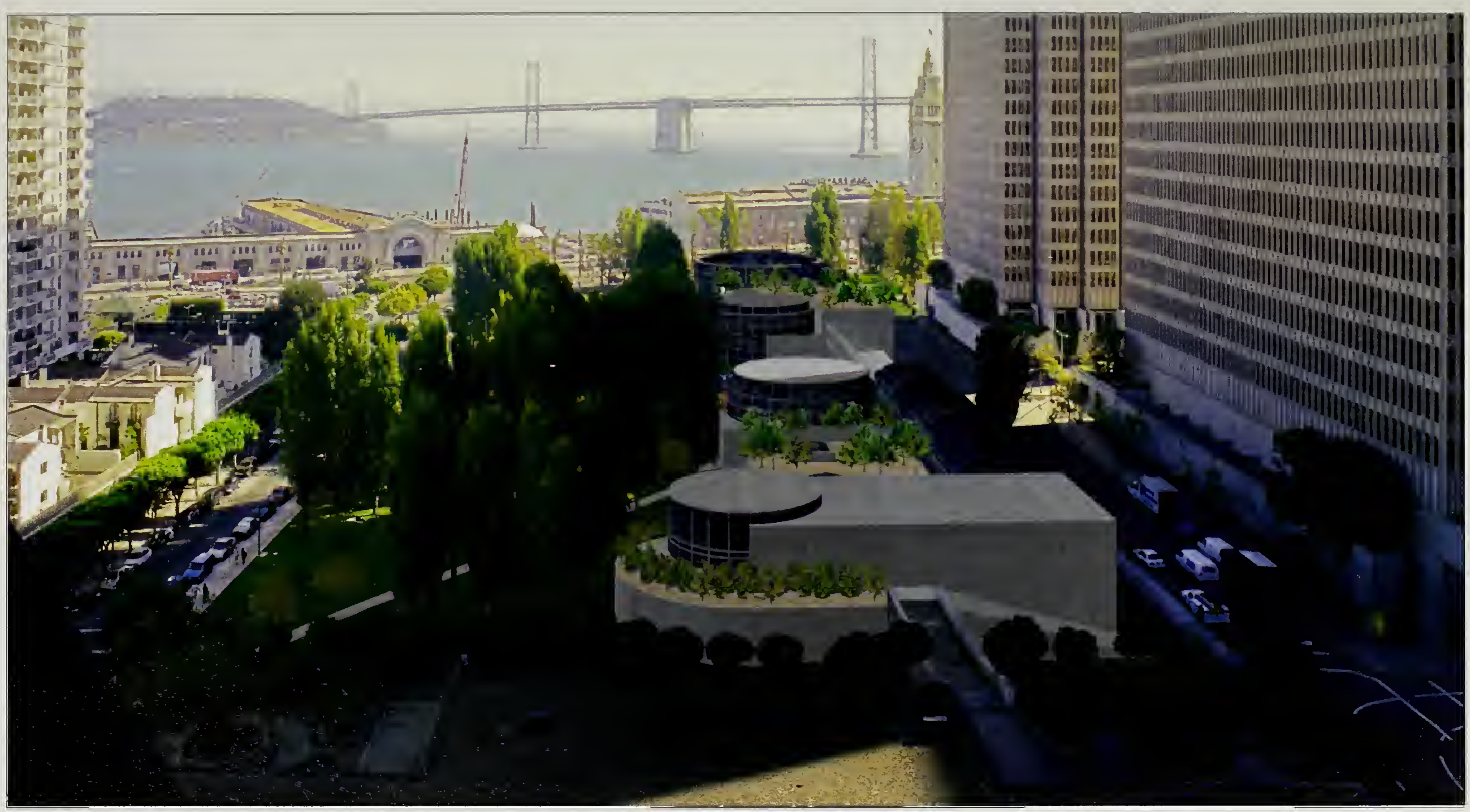
View 1 with Project, Looking Southwest from The Embarcadero



SOURCE: Square One Productions

FIGURE 3.3-6

View 2 with Project, Looking South on Drumm Street



SOURCE: Square One Productions

FIGURE 3.3-7

View 3 with Project, Looking East from One Maritime Plaza, 9th Floor

Overall, the Embarcadero Center and Maritime Plaza buildings are the dominant visual features in this image. From this viewpoint, the museum building appears to abut the Embarcadero Center buildings. Given the relatively small scale of the museum in relation to the background high-rise structures, the proposed project would not be substantially out of character with these adjacent uses.

(ii) Drumm Street Southbound

Figure 3.3-6, View 2 with Project, Looking South on Drumm Street, shows a simulated view of the project site looking south from the intersection of Washington and Drumm Streets. It is assumed that the trees in the northern portion of the site and along Drumm Street would remain with the project; these trees would partially obscure the museum buildings on Blocks 202 and 203. The pedestrian bridge between the Phase I and Phase II buildings is visible spanning Drumm Street in the midground of the view.

At this time the project landscaping plan has not been finalized. As such, it is not known whether the grass areas in front of the museum buildings would remain as open turf or would be entirely or partially replaced by shrubs or trees. Additional trees planted in the northwest corner of Block 202 and the northeast corner of Block 203 could further obstruct views of the museum from this location. Removal of the gazebo structure in the northwest corner of Block 202 would not substantially alter views from this location.

From this viewpoint, the most prominent visual features are the Drumm Street corridor and the Three and Four Embarcadero Center buildings in the background. Given the relatively small scale of the museum buildings in comparison to the high-rise structures in the background, the proposed project would not be substantially out of character with the surrounding uses.

(iii) One Maritime Plaza, East Side

Figure 3.3-7, View 3 with **Project, Looking East from Maritime Plaza, 9th Floor,** shows a simulated view of the project site from the 9th floor of One Maritime Plaza. This viewpoint provides a view of both Phases I and II of the project; the museum buildings would stretch east from Maritime Plaza toward The Embarcadero. For the purposes of this visual simulation, only trees that would be directly affected by building construction were shown to be removed. Further analysis may be necessary if additional tree removals are required within the open space portion of the site. As shown, the trees in the southern portion of the site would be removed for construction of the museum buildings. The tree removals would be most notable on Block 203, where existing trees are relatively tall and densely clustered. The existing pedestrian bridge from Block 203 to Alcoa Plaza would remain in place. Trees in the central and northern portion of Block 203 would remain. The Public Utilities Commission pump station building on Block 203 would be removed, although it is obscured by trees in this view.

The project site currently provides an open-space buffer between the low-rise residential townhouses in the Golden Gateway Center and the high-rise Embarcadero Center buildings to the south. The museum buildings would be smaller in mass and height than the Embarcadero Center buildings, and larger in mass than and similar in height to the adjacent two-story townhome structures. In this sense, the project would serve as a transition between the townhomes and Three Embarcadero Center. There would still be an open space area between the proposed museum buildings and the townhomes; the trees in the northern portion of Block 203 would serve as a buffer between the townhomes and the museum buildings by partly obscuring views of the museum.

The project would alter the short-range view from this location, but the proposed museum buildings would generally be consistent with the adjacent Embarcadero Center buildings. Remaining open space areas and trees would still be visible in the midground. Background views of the Ferry Building and Pier 1 would not be altered by the project, nor would long-range views of the Oakland-Bay Bridge or Yerba Buena Island.

(iv) Conclusion

Overall, the project would not substantially alter or block scenic vistas from public viewpoints. The height of the museum is substantially lower than surrounding high-rise office buildings, and with the open space areas, the project would serve as a transition between the low-rise townhouses in the Golden Gateway Center and the high-rise office buildings of Embarcadero Center. For these reasons, the only significant impact identified is the overall loss of public open space described earlier (in **Section 3.1**), with the acknowledgement that in dense urban areas open space is visually and experientially important.

C2(b) Tree Removal

The impacts of tree removal are evaluated based on a tree report prepared by Jennifer Buchanan and a biological assessment of the project site conducted by Impact Sciences in August 1999.[1,2]

A total of 194 trees are currently present on Blocks 202 and 203. About 53 existing trees on the site would be removed for development of Phases I and II. Depending on the drip lines of trees near the proposed buildings, additional trees may be removed. None of the trees proposed to be removed would have a diameter larger than four inches. On Block 202, a total of 21 trees would be removed for construction of the Phase I building. On Block 203, a total 32 trees would be removed for construction of the Phase II building.

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[1] Jennifer Buchanan, *Preliminary Tree Assessment of Blocks 202 and 203*, March 25, 1999, prepared in support of a Masters of Landscape Architecture, Ohio State University.

[2] Impact Sciences, Inc., *Biological Assessment of the Butterfly Discovery Park Project Site*, letter report dated September 30, 1999.

Projects to be undertaken by the City would result in the removal of 6 trees on Block 202 for the reconfiguration of the Embarcadero/Washington Street intersection, 13 trees on Block 202 as a result of improvements to The Embarcadero roadway and 15 trees for the extension of Davis Street. The remaining trees on Blocks 202 and 203 would be preserved.

As noted earlier, the most visually prominent trees on the site are located on Block 203, where they are clustered around the pump station building and maintenance yard, and around the elevated decks and pedestrian bridge leading to Maritime Plaza. On Block 203, a substantial number of trees would be removed in the southern portion of the block (see Figure 3.3-7). The portion of Block 202 where the museum building would be constructed does not contain a substantial number of visually prominent trees.

The proposed project, in combination with projects undertaken by the City, would result in the removal of a substantial proportion of the existing trees. However, the removal would not substantially alter or block scenic vistas from public viewpoints, and the visual buffer provided by the prominent trees in the central and northern portion of Block 203 would remain. For these reasons, the visual impact of the tree removal would be less than significant.

A. INTRODUCTION

The Initial Study, published on December 3, 1999, concluded that the project would result in no impact or a less-than-significant impact with respect to construction emissions, odors and toxics, and wind. As such, these topics will not be discussed in this EIR section. Impacts related to shadow were also found to be less-than-significant in the Initial Study and in addition, the proposed buildings would not be tall enough to be subject to Proposition K requirements. However, because the project site includes and is adjacent to public open spaces, a shadow analysis is presented in this EIR section for informational purposes.

This section was prepared in accordance with the Bay Area Air Quality Management District (BAAQMD) June 1996 *CEQA Guidelines* (as revised in 1999).

B. AIR QUALITY

B1. Smog and Its Causes

Smog is a term based on the words smoke and fog that is used to describe dense, visible air pollution. Although some air pollutants are colorless, smog is commonly used to describe the general concentrations of pollutants in the air. Smog is formed when combustion emissions and gaseous emissions, such as reactive organic compounds (ROC) and oxides of nitrogen (NO_x), undergo photochemical reactions in sunlight to form ozone. Ozone is a highly reactive gas that exists as a natural component of the atmosphere. A region of relatively high ozone concentration in the upper atmosphere, known as stratospheric ozone, helps to shield the Earth from harmful ultraviolet radiation. In the lower atmosphere where people live, elevated levels of ozone pose human health risks and can result in damage to crops, rubber, and other materials. Particulates, such as soil and dust materials and vehicle exhaust particulates, often mix with ozone, carbon monoxide (CO), and other compounds and create a brownish haze in the air.

The project site is located within the San Francisco Bay Area Air Basin (Basin), which comprises Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma Counties. The climate of the Bay Area is Mediterranean in character, with mild, rainy winter weather from November through March, and warm, dry weather from June through September. In summer, the Pacific high-pressure system typically remains near the coast of California; subsidence of warm air, associated with the Pacific high, creates frequent summer atmospheric temperature inversions.

Subsidence inversions may be several hundred to several thousand feet deep, effectively trapping pollutants in a small volume of air near the ground. In winter, the Pacific high-pressure system moves southward, allowing ocean-formed storms to move through the region. The frequent storms and infrequent periods of sustained sunny weather are not conducive to smog formation. Radiational cooling during the evening, however, sometimes creates thin inversions and concentrates air pollutant emissions near the ground. Because most of San Francisco's topography is below 200 feet, marine air is able to flow easily across most of the city, making its climate cool and windy.

In downtown San Francisco, pollutant emissions are high, especially from motor vehicle congestion, and localized pollutants can build up in "urban canyons." However, the prevailing westerly winds are generally strong enough to carry the pollutants away before they can accumulate.

B2. Air Quality Regulation

Air quality within the Basin is addressed through the efforts of various Federal, State, regional, and local government agencies. These agencies work jointly, as well as individually, to improve air quality through legislation, regulations, planning, policy-making, education, and a variety of programs. The agencies primarily responsible for improving the air quality within the Basin are discussed below along with their individual responsibilities.

B2(a) U.S. Environmental Protection Agency

The U.S. Environmental Protection Agency (U.S. EPA) is responsible for enforcing the 1990 amendments to the Federal Clean Air Act (CAA) and the national ambient air quality standards (Federal standards) that it establishes. These standards identify levels of air quality for six "criteria" pollutants, which are considered the maximum levels of ambient (background) air pollutants considered safe, with an adequate margin of safety, to protect the public health and welfare. The six criteria pollutants include ozone, CO, nitrogen dioxide (NO_2—a form of NO_x), sulfur dioxide (SO_2), particulate matter (PM_{10}), and lead. The U.S. EPA also has regulatory and enforcement jurisdiction over emission sources beyond State waters (outer continental shelf), and those that are under the exclusive authority of the Federal government, such as aircraft, locomotives, and interstate trucking.

The Basin is currently classified by the U.S. EPA as a nonattainment area for ozone. In response to its enforcement responsibilities, the U.S. EPA requires each state to prepare and submit a State Implementation Plan (SIP) that describes how the state will achieve the Federal standards by specified dates, depending on the severity of the air quality within the state or air basin.

B2(b) California Air Resources Board

The California Air Resources Board (ARB), a department of the California Environmental Protection Agency (CALEPA), oversees air quality planning and control throughout California. It is primarily responsible for ensuring implementation of the 1989 amendments to the California Clean Air Act (CCAA), responding to the Federal CAA requirements, and for regulating emissions from motor vehicles and consumer products within the State. The ARB has established emission standards for vehicles sold in California and for various types of equipment available commercially. It also sets fuel specifications to further reduce vehicular emissions.

Like the U.S. EPA, the ARB has established ambient air quality standards for the State (State standards). These standards apply to the same six criteria pollutants as the Federal CAA, and also include sulfate, visibility, hydrogen sulfide, and vinyl chloride. They are also more stringent than the Federal standards and, in the case of PM_{10} and SO_2, far more stringent. The amendments to the CCAA require air pollution control districts to achieve the State standards by the earliest practicable date.

Based on monitored pollutant levels, the CCAA divides ozone nonattainment areas into four categories—moderate, serious, severe, and extreme—to which progressively more stringent requirements apply. Because it occasionally exceeds State standards, the Basin is classified as a nonattainment area for ozone and PM_{10}.

B2(c) Bay Area Air Quality Management District

The management of air quality in the Basin is the responsibility of the BAAQMD. The BAAQMD is responsible for bringing and/or maintaining air quality in the Basin within Federal and State air quality standards. Specifically, the BAAQMD has the responsibility to monitor ambient air pollutant levels throughout the Basin and to develop and implement attainment strategies to ensure that future emissions will be within Federal and State standards.

(i) Clean Air Plan

As discussed previously, the federal and State Clean Air Acts require the preparation of plans to reduce air pollution to healthful levels. The BAAQMD has responded to this requirement by preparing a series of Clean Air Plans (CAPs), the most recent and rigorous of which was approved in December 2000. The 2000 CAP continues the air pollution reduction strategy established by the 1991 CAP. The 2000 CAP is the third triennial update to the 1991 CAP, following previous updates in 1994 and 1997. The 2000 CAP was designed to address attainment of the State standards for ozone.

The 1997 CAP contained stationary and mobile source control measures, which include: developing rules to reduce vehicle trips to and from major residential developments, shopping centers, and other indirect sources; encouraging cities and counties to plan for high density development; and clustering development with mixed uses in the vicinity of mass transit stations. The 2000 CAP includes changes in the organization and scheduling of some existing control measures, some new stationary source control measures, envisions to previous stationary source measures, and deletion of some control measures no longer deemed feasible by District staff. The transportation control measures (TCMs) are unchanged from the 1997 CAP. The 2000 CAP continues to discourages "urban sprawl," while strongly endorsing high-density mixed-use developments near transit centers that reduce the need for commuting by personal vehicles.

(ii) BAAQMD Rules and Regulations

The BAAQMD is responsible for limiting the amount of emissions that can be generated throughout the Basin by various stationary and mobile sources. Specific rules and regulations have been adopted that limit the emissions that can be generated by various uses and/or activities, and identify specific pollution reduction measures that must be implemented in association with various uses and activities. These rules not only regulate the emissions of the six criteria pollutants, but also toxic emissions and acutely hazardous materials. They are also subject to ongoing refinement by the BAAQMD.

Emissions sources subject to these rules are regulated through the BAAQMD's permitting process. Through this permitting process, the BAAQMD also monitors the amount of stationary emissions being generated and uses this information in developing the CAP. Any emissions sources that would be constructed as part of the proposed project would be subject to the BAAQMD rules and regulations.

(iii) BAAQMD CEQA Guidelines

In April 1996, the BAAQMD prepared its *CEQA Guidelines* as a guidance document to provide lead government agencies, consultants, and project proponents with uniform procedures for assessing air quality impacts and preparing the air quality sections of environmental documents for projects subject to CEQA. The *CEQA Guidelines* were revised by the BAAQMD in December 1999. This document describes the criteria that the BAAQMD uses when reviewing and commenting on the adequacy of environmental documents, such as this EIR. It recommends thresholds for use in determining whether projects would have significant adverse environmental impacts, identifies methodologies for predicting project emissions and impacts, and identifies measures that can be used to avoid or reduce air quality impacts. This EIR was prepared following the recommendations of the BAAQMD *CEQA Guidelines*.

B2(d) Association of Bay Area Governments

The Association of Bay Area Governments (ABAG) is a council of governments for the Counties of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Sonoma, and Solano. ABAG is a regional planning agency and serves as a forum for regional issues relating to transportation, the economy, community development, and the environment. ABAG also serves as the regional clearinghouse for projects requiring environmental documentation under Federal and State law. In this role, ABAG reviews proposed projects to analyze their impacts on ABAG's regional planning efforts.

Although ABAG is not an air quality management agency, it is responsible for several air quality planning issues. Specifically, as the designated Metropolitan Planning Organization (MPO) for the nine counties, it is responsible, pursuant to Section 176(c) of the 1990 amendments to the CAA, for providing current population, employment, travel, and congestion projections for regional air quality planning efforts. It is required to quantify and document the demographic and employment factors influencing expected transportation demand, including land use forecasts. Pursuant to *California Health and Safety Code* Section 40460(b), ABAG is also responsible for preparing and approving the portions of the Basin's CAP relating to demographic projections and integrated regional land use, housing, employment, and transportation programs, measures, and strategies.

B2(e) Local Governments

Local governments, such as the City and County of San Francisco, have the authority and responsibility to reduce air pollution through their police power and land use decision-making authority. Specifically, local governments are responsible for the mitigation of emissions resulting from land use decisions and for the implementation of transportation control measures as outlined in the CAP. The CAP assigns local governments certain responsibilities to assist the Basin in meeting air quality goals and policies. In general, a first step toward implementation of a local government's responsibility is accomplished by identifying air quality goals, policies, and implementation measures in its general plan. Through capital improvement programs, local governments can fund infrastructure that contributes to improved air quality, by requiring such improvements as ridesharing, park and ride, bicycle facilities, and traffic signal timing improvements. In accordance with CEQA requirements and the CEQA review process, local governments assess air quality impacts, require mitigation of potential air quality impacts by conditioning discretionary permits, and monitor and enforce implementation of such mitigation.

B3. Existing Air Quality Environment

B3(a) Regional Air Quality

To identify ambient concentrations of the six criteria pollutants, the BAAQMD operates 31 air quality monitoring stations throughout the Basin. The monitoring station nearest the project site is located on Arkansas Street in San Francisco. This station monitors levels of ozone, PM_{10}, CO, SO_2, and NO_2.

Table 3.4-1, Ambient Pollutant Concentrations Registered at San Francisco Monitoring Station, lists the concentrations registered and the violations of State and Federal standards that have occurred at the San Francisco monitoring station from 1995 through 1999. As shown, the San Francisco station has registered values above the State standard for PM_{10}.

Table 3.4-1
Ambient Pollutant Concentrations Registered at San Francisco Monitoring Station

Pollutant	Standards[1, 2]	Year				
		1995	1996	1997	1998	1999
OZONE (O_3)						
Maximum 1-hour concentration monitored (ppm)		0.09	0.07	0.09	0.05	0.08
Number of days exceeding Federal standard	>0.12 ppm	0	0	0	0	0
Number of days exceeding State standard	>0.09 ppm	0	0	0	0	0
SULFUR DIOXIDE (NO_2)						
Maximum 24-hour concentration (ppm)		0.007	0.008	0.006	0.006	0.007
Number of days exceeding State standard	>0.04 ppm	0	0	0	0	0
SUSPENDED PARTICULATE MATTER (PM_{10})						
Annual Geometric Mean (µg/m^3)		22.1	21.4	22.5	20.1	22.7
Number of days exceeding Federal standard	>150 µg/m^3	0	0	0	0	0
Number of days exceeding State standard	>50 µg/m^3	0	2	0	1	6
CARBON MONOXIDE (CO)						
Maximum 8-hour concentration (ppm)		4.4	3.7	4.2	2.4	5.4
Number of days exceeding Federal standard	>9 ppm	0	0	0	0	0
Number of days exceeding State standard	>9 ppm	0	0	0	0	0
NITROGEN DIOXIDE (NO_2)						
Maximum 1-hour concentration (ppm)		0.09	0.08	0.07	0.08	10
Number of days exceeding State standard	>0.25 ppm	0	0	0	0	0

Sources: Bay Area Air Quality Management District, Summary of Air Pollution in the Bay Area (for 1995, 1996,1997, 1998 and 1999); and BAAQMD, CEQA Guidelines (April 1996, revised December 1999).

[1] *Parts by volume per million of air (ppm) or micrograms per cubic meter of air (µg/m^3)*

[2] *Federal and State standards are for the same time period as the maximum concentration measurement unless otherwise indicated.*

B3(b) Local Air Quality

The vicinity of the project site is characterized by downtown office, commercial and retail, low-rise and high-rise residential, and recreational uses. Emissions sources include stationary activities, with minor sources such as space heating, cooking, and water heating, and mobile activities—primarily automotive traffic. Motor vehicles are the primary sources of pollutants within the area.

B3(c) Site-Specific Emissions

The project site is currently used for walking, sitting, and other passive recreational activities and does not support uses that generate air pollutant emissions.

B4. Sensitive Receptors

Land uses such as schools, hospitals, and convalescent homes are considered to be relatively sensitive to poor air quality because infants, the elderly, and people with health afflictions, especially respiratory ailments, are more susceptible to respiratory infections and other air-quality-related health problems than the general public. Residential areas are also considered to be sensitive to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present. In the vicinity of the project site, sensitive air quality receptors include the residential uses in the Golden Gateway Center.

B5. Project Impacts

B5(a) Significance Criteria

In order to facilitate the intent and significance determinations of the *Guidelines*, the BAAQMD has issued criteria for determining the level of significance for project-specific air quality impacts within its jurisdiction. The City and County of San Francisco defers to these criteria when assessing project-specific and cumulative air quality impacts for projects proposed within its jurisdiction.

(i) Operational Emissions

The BAAQMD recommends that individual projects with direct and/or indirect operational emissions that exceed the following thresholds be considered significant:

- 80 pounds per day (ppd) of ROG
- 80 ppd of NO_x

- 80 ppd of PM_{10}

Indirect emissions come from mobile sources that access the project site but generally emit off-site. The primary sources of long-term, indirect emissions associated with the proposed project would be motor vehicles. Direct emissions are emitted on-site and include stationary sources and on-site mobile equipment. Examples of land uses and activities that generate direct emissions are industrial operations and sources subject to an operating permit by the BAAQMD. The proposed project would not be a significant source of direct emissions.

Indirect CO emissions are considered significant if they will contribute to a violation of the State Standard for CO (9 parts per million (ppm) averaged over 8 hours and 20 ppm for one hour). Traffic-congested roadways and intersections have the potential to generate localized high levels of CO. No exceedances of the State or Federal CO standard have been recorded at any of the BAAQMD monitoring stations since 1991. However, because elevated CO concentrations are generally localized, heavy traffic volumes and congestion at specific intersections or roadway segments can lead to high levels of CO, or "hot spots," while concentrations at the nearest air quality monitoring station may be below State and Federal standards. For this reason, the BAAQMD requires CO modeling if vehicle emissions of CO would exceed 550 ppd, or if the project would add trips to intersections currently operating at LOS D, E, or F, or cause a decline to LOS D, E, or F.

(ii) Cumulative Impacts

Any project that would individually have a significant air quality impact would also be considered to have a significant cumulative air quality impact. For a project that does not individually have a significant air quality impact, the BAAQMD requires that a determination of cumulative impacts be based on an evaluation of the consistency of the proposed project with the local general plan and of the general plan with the regional air quality plan. The appropriate regional air quality plan for this analysis is the 2000 CAP. If a project is proposed in a city or county with a general plan that is consistent with the CAP, and the project is consistent with that general plan, the project will not have a significant cumulative impact.

B5(b) Impacts of Proposed Project

(i) Operational Emissions

Operational emissions associated with the development of the proposed project would result primarily from vehicular trips to and from the project site. The predicted emissions associated with project operation have been calculated utilizing a computer model developed by Impact Sciences, which is a highly detailed version of the URBEMIS computer model recommended for use by the BAAQMD. This model has been updated with current motor vehicle emission factors provided by ARB's statewide emission factor model (EMFAC7G).

The average daily direct and indirect emissions associated with the proposed project are presented for both weekdays and weekends, for the year 2000. See **Tables 3.4-2 and 3.4-3, Estimated Operational Emissions (Weekday)** and **Estimated Operational Emissions (Weekend)**. Although it is expected that Phase I of the project would be completed in 2006, and Phase II of the project in 2013, year 2000 emissions are used because they are considered "worst case" (the EMFAC7G emission factors show a continuing reduction in vehicle emissions on an annual basis).

Other sources of emissions would include minor stationary sources such as water heaters and cooking appliances. The stationary emissions associated with use of these common appliances are not expected to be significant. The project proposes to use an autoclave, which is a device that uses high temperature and pressure to sterilize objects, when disposing of dead or diseased plant or insect material, in accordance with U.S. Department of Agriculture requirements. No stationary or toxic air emissions would result from use of the autoclave.

The average emissions presented in **Table 3.4-2** and **Table 3.4-3** are compared with the BAAQMD project-specific recommended thresholds of significance for the sources of pollutants. As shown, the calculations indicate that the proposed project would generate average daily direct and indirect emissions that would not exceed the BAAQMD recommended thresholds for individual projects. Therefore, the project's operational emissions would not be considered significant.

(ii) Local Carbon Monoxide Concentrations

As discussed in **Section 3.2, Transportation and Circulation**, all of the study intersections currently operate at LOS B or better under existing conditions, and would operate at LOS C or better under existing-plus-project conditions and cumulative conditions. However, CO modeling was conducted for the local intersections near the project area for informational purposes.

CALINE4 is a dispersion model developed by Caltrans for predicting CO concentrations near roadways, as the preferred method of estimating pollutant concentration at various locations. CALINE4 adds roadway-specific CO emissions calculated from peak traffic volumes to ambient CO air concentrations. For this analysis, CO concentrations were calculated based on a simplified CALINE4 screening procedure developed by the BAAQMD. This methodology assumes worst-case conditions (i.e., wind direction is parallel to the primary roadway 90 degrees to the secondary road; wind speed of less than one meter per second; and extreme atmospheric stability) and provides a screening of maximum, worst-case, CO concentrations.

Table 3.4-2
Estimated Operational Emissions (Weekday)

	Applicable Emissions in Pounds per Day				
Emissions Source	**CO**	**ROC**	**NO_x**	**SO_x**	**PM_{10}**
Direct Stationary Sources	1.8	0.2	10.2	0.9	0.3
Indirect Mobile Sources	79.4	6.4	7.8	0.3	6.9
Totals:	81.2	6.6	18.0	1.2	7.2
Recommended Thresholds:	550.0	80.0	80.0	NT[1]	80.0
Exceeds Threshold?	No	No	No	No	No

Source: Impact Sciences, Inc. Based on emission factors for the year 2000 to represent a worst-case scenario.

Notes:

[1] *NT = No Threshold. The SO_x standard is currently being met throughout the Bay Area, with SO_x levels at most monitoring stations less than 10 percent of the standard. According to the BAAQMD, major sources of SO_x in the Bay Area include electricity generation, petroleum refining, and shipping. Institutional sources, including motor vehicles, are not a substantial sources of SO_x.*

Table 3.4-3
Estimated Operational Emissions (Weekend)

	Applicable Emissions in Pounds per Day				
Emissions Source	**CO**	**ROC**	**NO_x**	**SO_x**	**PM_{10}**
Direct Stationary Sources	1.8	0.2	10.2	0.9	0.3
Indirect Mobile Sources	120.5	9.8	11.8	0.4	10.5
Totals:	122.3	10	22	1.3	10.8
Recommended Thresholds:	550.0	80.0	80.0	NT[1]	80.0
Exceeds Threshold?	No	No	No	No	No

Source: Impact Sciences, Inc. Based on emission factors for the year 2000 to represent a worst-case scenario.

Notes:

[1] *NT = No Threshold. The SO_x standard is currently being met throughout the Bay Area, with SO_x levels at most monitoring stations less than 10 percent of the standard. According to the BAAQMD, major sources of SO_x in the Bay Area include electricity generation, petroleum refining, and shipping. Institutional sources, including motor vehicles, are not a substantial sources of SO_x.*

The simplified CALINE4 procedure was used to assess year 2000 CO concentrations 50, 100 and 300 feet from the study intersections with existing conditions, as well as traffic generated by already approved and potential projects in the project area. As with the project's operational emissions discussed above, year 2000 emissions are used because they are considered "worst case" (the EMFAC7G emission factors show a continuing reduction in vehicle emissions on an annual basis). There are various planned and potential projects in the project area that if constructed would have a direct impact on the local street system and project operations. These projects include the extension of Davis Street, construction of an underground garage on Block 202, and the restriping of Washington Street (refer to **Section 3.2, Transportation and Circulation**).

The results of this modeling are shown in **Table 3.4-4, Predicted Future Carbon Monoxide Concentrations (Existing Roadway Scenario)** and **Table 3.4-5, Predicted Future Carbon Monoxide Concentrations (Garage and Revised Roadway Scenario)**.

Table 3.4-4
Predicted Future Carbon Monoxide Concentrations
Existing Roadway Scenario

	50 Feet		100 Feet		300 Feet	
Intersection	1-Hour[1]	8-Hour[2]	1-Hour[1]	8-Hour[2]	1-Hour[1]	8-Hour[2]
Weekday						
Washington Street/Battery Street	7.6	5.1	7.3	4.9	7.1	4.7
Washington Street/Drumm Street	8.2	5.7	7.8	5.3	7.2	4.9
Washington Street/The Embarcadero	9.5	6.7	8.8	6.1	7.7	5.3
Clay Street/Drumm Street	8.0	5.5	7.7	5.2	7.2	4.8
Clay Street/Davis Street	8.4	5.8	7.9	5.4	7.3	4.9
Weekend						
Washington Street/The Embarcadero	9.3	6.5	8.6	5.9	7.6	5.2

Source: Impact Sciences, Inc.

[1] *State standard is 20.0 parts per million. Federal standard is 35 parts per million.*

[2] *State and Federal standard is 9.0 parts per million.*

Table 3.4-5
Predicted Future Carbon Monoxide Concentrations
Garage and Revised Roadway Scenario

	50 Feet		100 Feet		300 Feet	
Intersection	**1-Hour**[1]	**8-Hour**[2]	**1-Hour**[1]	**8-Hour**[2]	**1-Hour**[1]	**8-Hour**[2]
Weekday						
Washington Street/Battery Street	7.6	5.1	7.4	5.0	7.1	4.7
Washington Street/Drumm Street	8.3	5.8	7.9	5.4	7.3	4.9
Washington Street/The Embarcadero	9.7	6.8	8.8	6.2	7.7	5.3
Clay Street/Drumm Street	8.1	5.6	7.7	5.3	7.2	4.8
Clay Street/Davis Street	8.4	5.8	7.9	5.5	7.3	4.9
Weekend						
Washington Street/The Embarcadero	9.3	6.6	8.6	6.0	7.6	5.2

Source: Impact Sciences, Inc
[1] *State standard is 20.0 parts per million. Federal standard is 35 parts per million.*
[2] *State and Federal standard is 9.0 parts per million.*

As shown, the simplified CALINE4 procedure predicts that, under worst case conditions, CO concentrations at the study intersections would not exceed the state 1-hour or 8-hour CO standards under year 2000 conditions with the approved projects and proposed project. Based on this analysis, CO hotspots are not predicted to exist near these intersections and project impacts to nearby sensitive receptors such as residences would not be significant.

B6. Cumulative impacts

B6(a) Cumulative Operational Impacts

As discussed previously, for any project that does not individually have significant operational air quality impacts, the BAAQMD recommends that the determination of significant cumulative impacts be based on an evaluation of the consistency of the project with the local general plan and of the general plan with the 2000 Clean Air Plan.

The general purposes of comparing (in this case) the *San Francisco General Plan* with the BAAQMD *Clean Air Plan* are to determine whether the *General Plan* (1) supports attainment of the State air quality standards (through consistency with population-based emissions forecasts in the *Clean Air Plan*), and (2) supports the performance objective in the California Clean Air Act to reduce the rate of increase in passenger vehicle trips and miles traveled.

The City and County of San Francisco has established land use and transportation policies in the *San Francisco General Plan* that are intended to (among other purposes) improve air quality in San Francisco. The following are included in the policies of the Transportation Element of the *General Plan,* and are aimed at reducing congestion on roadways; giving priority to public transit; managing the supply of parking in the downtown area; and promoting coordination between land use and transportation to improve air quality:

- Congestion Management;
- Transit First Policy;
- Transportation Demand Management;
- Transportation System Management;
- Parking Management and Citywide Parking; and
- Mass Transit.

Among these policies, the Transit First policy is aimed at restoring balance to a transportation system by improving the overall mobility for all residents and visitors. It encourages the use of transit and other alternatives to the single-occupant vehicle as modes of transportation, and gives priority to the maintenance and expansion of the local transit system and the improvement of regional transit coordination.

Other policies in the *General Plan* (Air Quality Element) that help reduce vehicle miles traveled include:

- (Policy 3.1) Take advantage of the high density development in San Francisco to improve the transit infrastructure and also encourage high density and compact development where an extensive transportation infrastructure exists;

- (Policy 3.2) Encourage mixed land use development near transit lines and provide retail and other types of service oriented uses within walking distance;

- (Policy 3.3) Continue existing city policies that require housing development in conjunction with office development and expand this requirement to other types of commercial developments;

- (Policy 3.4) Continue past efforts and existing policies to promote new residential development in and close to the downtown area and other centers of employment;

- (Policy 3.5) Continue existing growth management policies in the city and give consideration to the overall air quality impacts of new development including its impact on the local and regional transportation system in the permit review process;

- (Policy 3.6) Link land use decision making policies to the availability of transit and consider the impacts of these policies on the local and regional transportation system; and

- (Policy 4.1) Increase awareness and educate the public about negative health effects of pollution caused by mobile sources.

Given the above information, the San Francisco *General Plan* is considered to be consistent with the 2000 Clean Air Plan.

The proposed project includes the following features to reduce vehicle emissions:

- Provide no on-site parking;
- Provide transit information to visitors and employees;
- Provide information on the Park's voicemail system to instruct visitors how to access the site by transit;
- Provide transit maps at the site and project's web site;
- Provide four showers and eight clothes lockers;
- Provide a total of eight secured bicycle spaces for its employees; and
- Provide between 30 and 60 bicycle spaces the landscaped park area.

These measures would help to minimize the increase in Vehicle Miles Traveled (VMT) attributable to the project and would be consistent with transportation and air quality objectives and policies of the *San Francisco General Plan*. Therefore, the cumulative air quality impacts would not be considered significant.

C. SHADOW

C1. Existing Shadow Environment

The project site is currently in public open space uses. As shown on **Figure 2.0-2** in **Section 2.0, Project Description**, the northern three-fifths of Block 202 are under the jurisdiction of the Recreation and Park Department. The balance of the project site is under the jurisdiction of the Public Utilities Commission and the Department of Real Estate.

Open spaces in the vicinity of the project site include Justin Herman Plaza, which is adjacent to and south of Block 202; publicly-accessible plaza and sitting areas within the Embarcadero Center, south and southwest of the project site; Herb Caen Way, a pedestrian walkway on the bay side of The Embarcadero; Alcoa Plaza, a podium-level open space area within One Maritime Plaza, west of the project site; and private and publicly-accessible walkways and sitting areas associated with the residences within the Golden Gateway Center, north of the project site.

Structures on the project site include an open-frame gazebo on Block 202 and a one-story pump station building on Block 203. These structures are low in height and do not cast substantial shadows. Trees are the only on-site objects that cause noticeable shading; Block 203 has a number of tall trees that provide shade in the northern and western parts of the block.

Figures 3.4-1 through **3.4-4, Shadow Projections: December 21, Shadow Projections: March 21, Shadow Projections: June 21, and Shadow Projections: September 21,** illustrate the existing shadow on and in the vicinity of the project site in light gray shading (shadow from the proposed museum and learning center buildings is also shown in dark gray shading; shadow impacts are discussed later in this EIR section). As shown, most of the existing shading on site is a result of the adjacent Embarcadero Center buildings, which are up to 50 stories in height. With the exception of the summer solstice period, when shading is relatively limited, the Two, Three, and Four Embarcadero Center buildings cast extensive shadows to the north that shade most portions of the project site throughout the course of a day. The greatest amount of shading occurs during the winter solstice period, when both blocks of the site are almost entirely shaded in the afternoon.

C2. Shadow Regulation

Section 295 of the City Planning Code was adopted in response to Proposition K (passed in November 1984) in order to protect public open spaces from shadowing by new structures between the period between one hour after sunrise and one hour before sunset, year round. Section 295 restricts new shadow upon public open spaces under the jurisdiction of the Recreation and Park Department by any structure exceeding 40 feet unless the Planning Commission, in consultation with the General Manager of the Recreation and Park Department, finds the impact to be insignificant.

The proposed project would not result in the construction of any structures in excess of 40 feet in height; therefore, the project is not subject to the Proposition K requirements.

C3. Project Impacts

C3(a) Significance Criteria

As noted previously, Section 295 of the City Planning Code restricts new shadow upon public open spaces under the jurisdiction of the Recreation and Park Department by any structure exceeding 40 feet unless the Planning Commission finds the impact to be insignificant. Although the proposed museum/conservatory buildings would not be more than 40 feet tall and therefore, are not subject to the requirements of Planning Code Section 295,an analysis of shadow effects is included in this EIR section for informational purposes only.

C3(b) Impacts of Proposed Project

A shadow analysis was conducted to determine the shading impact of the proposed project on Maritime Plaza, Justin Herman Plaza, and other nearby open spaces. Shadow projection graphics were prepared using a three-dimensional computer model. Data input into the model included existing building footprints and roof and ground plane elevations, based on the HJW data set for San Francisco, and solar angles derived from the San Francisco Planning Department's published list of angles. As requested by the City, shadow patterns are shown for 10:00 AM, 12:00 noon, and 3:00 PM for the winter solstice (December 21) when the sun is at its greatest distance from the equator and the day is shortest, for the summer solstice (June 21) when the sun is at its greatest distance from the equator and the day is longest, and for the fall equinox (September 21) and spring equinox (March 21) when the sun is at its midpoint and the day and night are the same length. **Figures 3.4-1** through **3.4-4** on pp. 3.4-17, 3.4-19, 3.4-21, and 3.4-23 illustrate the existing shadow patterns on the project site (in light gray) and net new shadow resulting from the proposed museum and learning center buildings (in dark gray). As shown, almost all of the net new shadow from the project would remain within the project site boundaries. In addition, during all times of the year, the extent of new shadow from the museum and learning center buildings would be small in relation to existing shadows from the Embarcadero Center buildings.

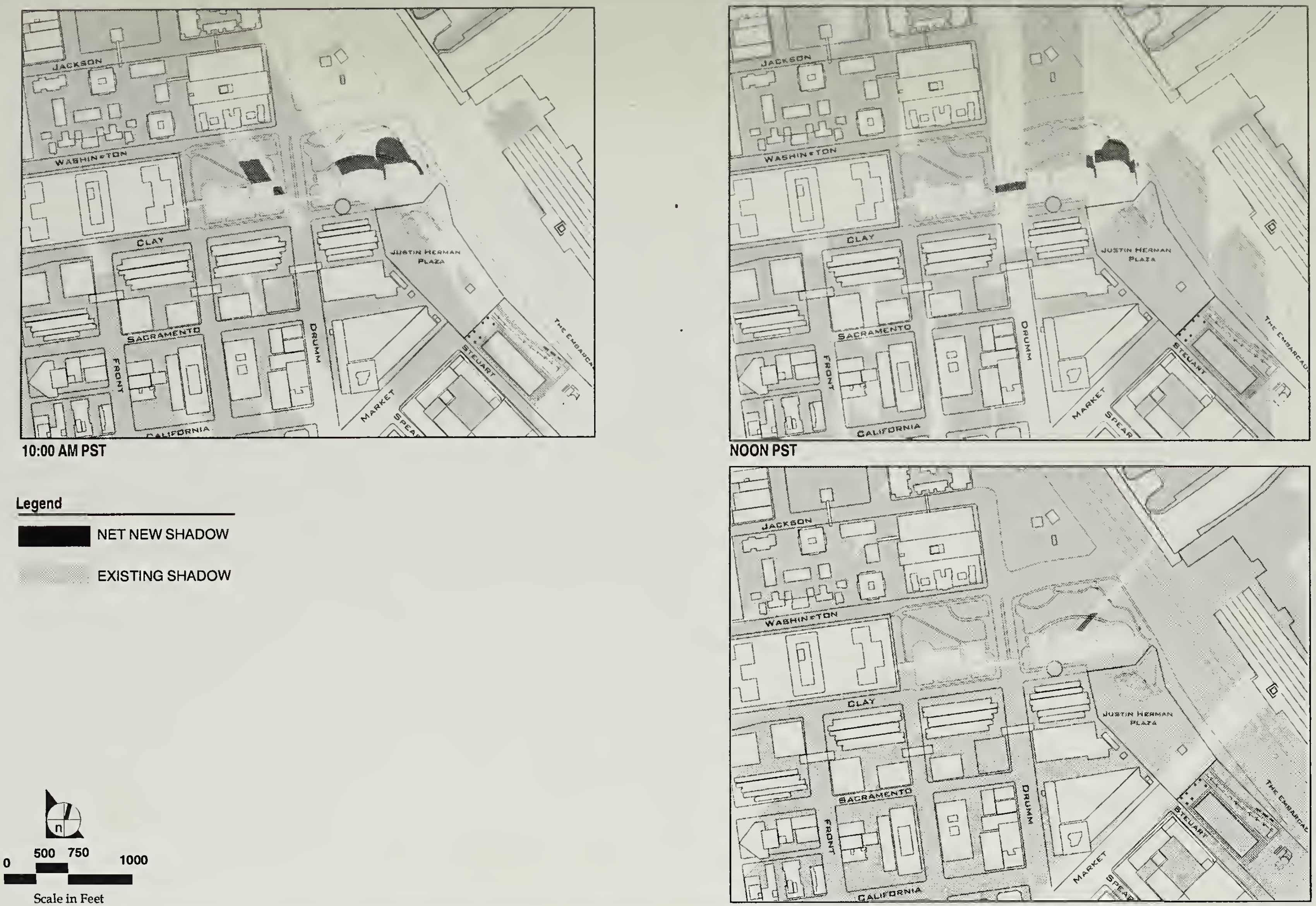
The museum's annual shadow fan was also prepared to define the extent of shadow from the proposed project throughout the solar year. The shadow fan boundary is produced by combining shadow projections for the solar year, taking into account the time period from one hour after sunrise to one hour before sunset.

(i) December 21

Figure 3.4-1 on p. 3.4-16 shows the existing and project-generated shadow projections for December 21. Shadows cast on this date represent the "worst case," as the sun is at its southernmost point in the sky. At 10:00 AM, the proposed museum and learning center buildings would cast new shadow on the open space in the center of Blocks 202 and 203. At 12:00 noon, new shadow would be cast from the proposed pedestrian bridge onto Drumm Street, and new shadow would be cast on the open space in the eastern part of Block 203. At 3:00 PM, the shadow from the Embarcadero Center would cover almost the entire site; a small area of new shadow would be cast on the open space on Block 202.

(ii) March 21

Figure 3.4-2 on p. 3.4-19 shows the existing and project-generated shadow projections for March 21. Shadows cast during this time of year would not extend far from the buildings. At 10:00 AM, a small area of new shadow would be cast in the open space portion of Block 202. At 12:00 noon, new shadow


10:00 AM PST

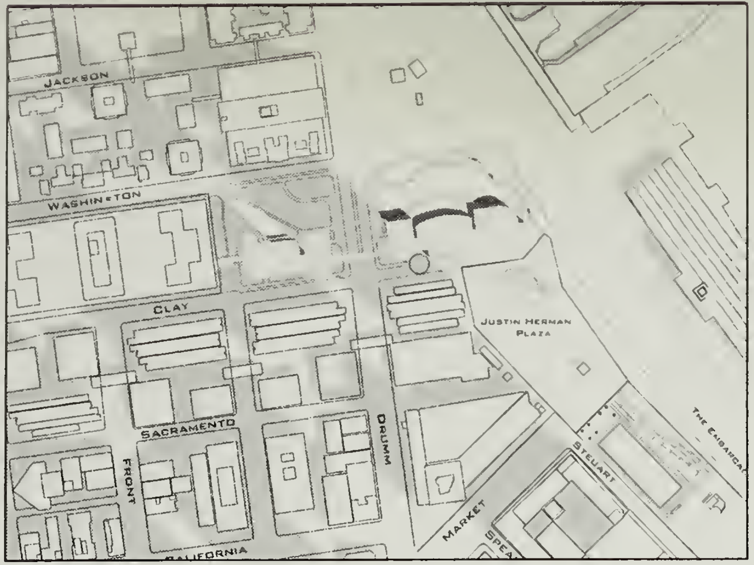
NOON PST

3:00 PM PST

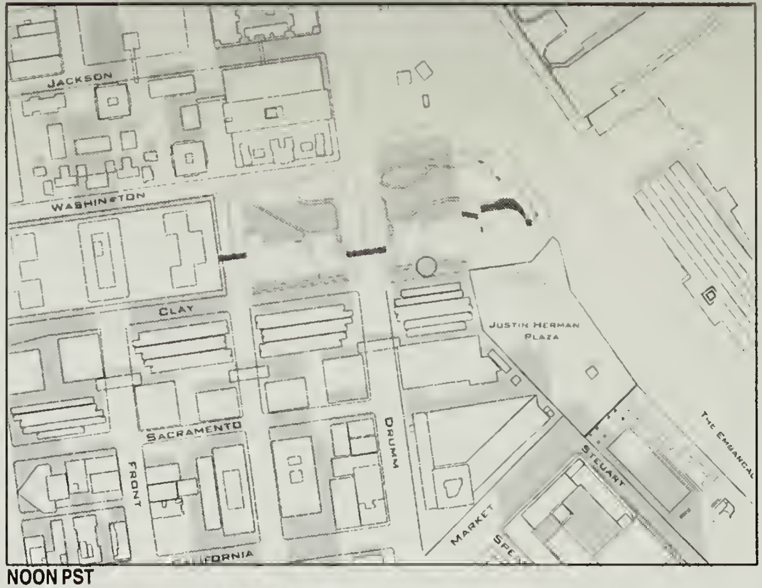
SOURCE: CADP Associates

FIGURE **3.4-1**

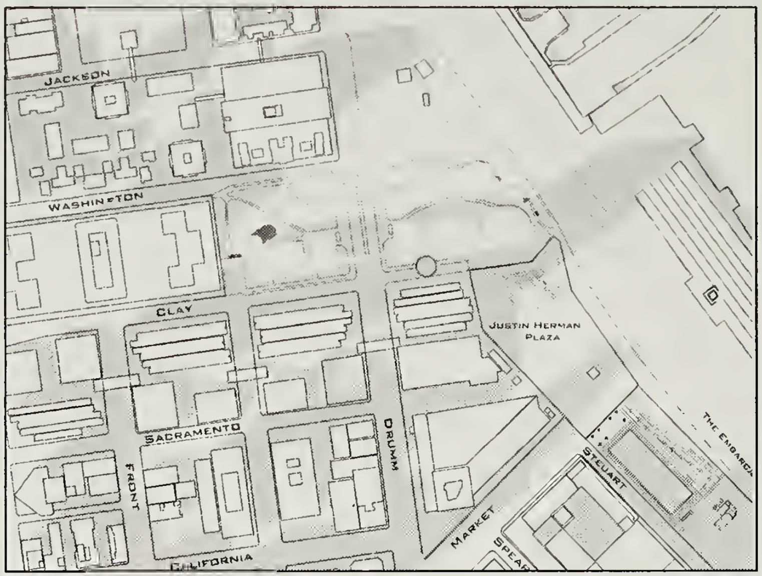
Shadow Projections: December 21



10:00 AM PST



NOON PST

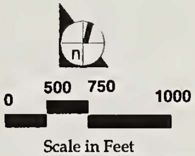


3:00 PM PST

Legend

■ NET NEW SHADOW

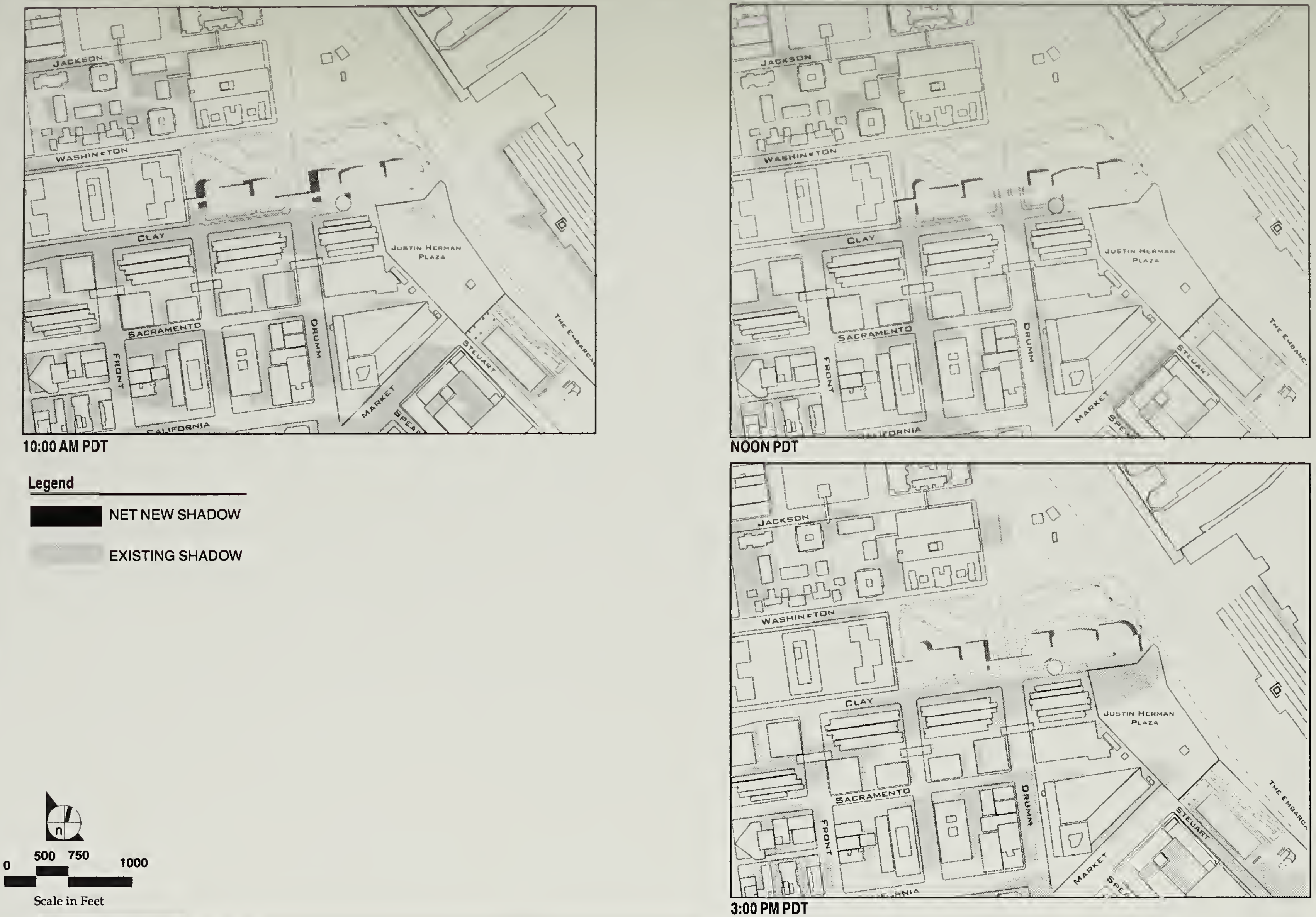
▨ EXISTING SHADOW



SOURCE: CADP Associates

FIGURE 3.4-2

Shadow Projections: March 21



10:00 AM PDT

NOON PDT

3:00 PM PDT

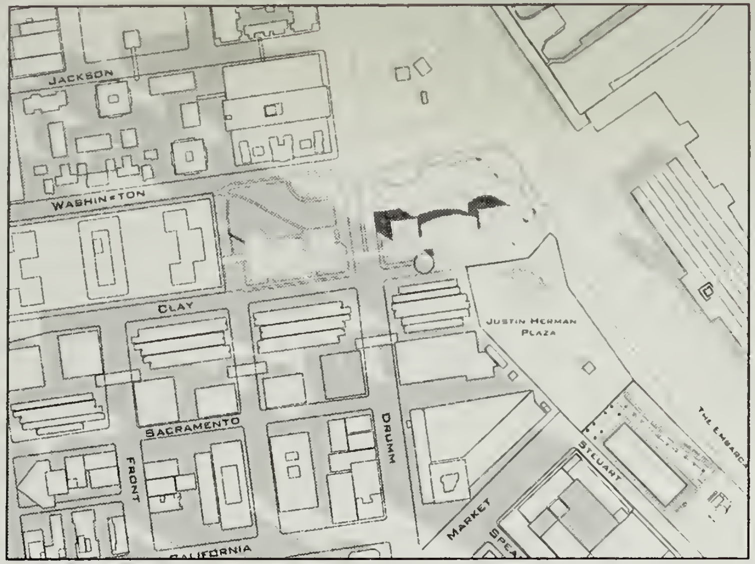
SOURCE: CADP Associates

FIGURE 3.4-3

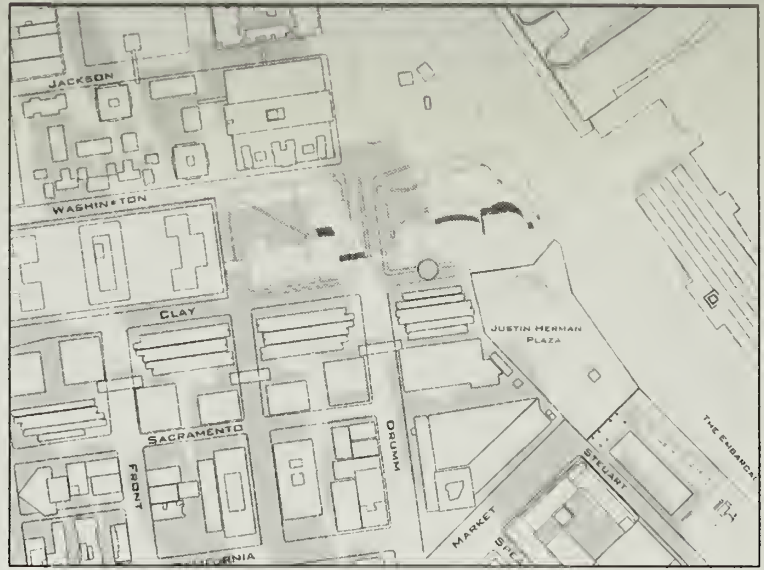
Shadow Projections: June 21

394-01•1/01

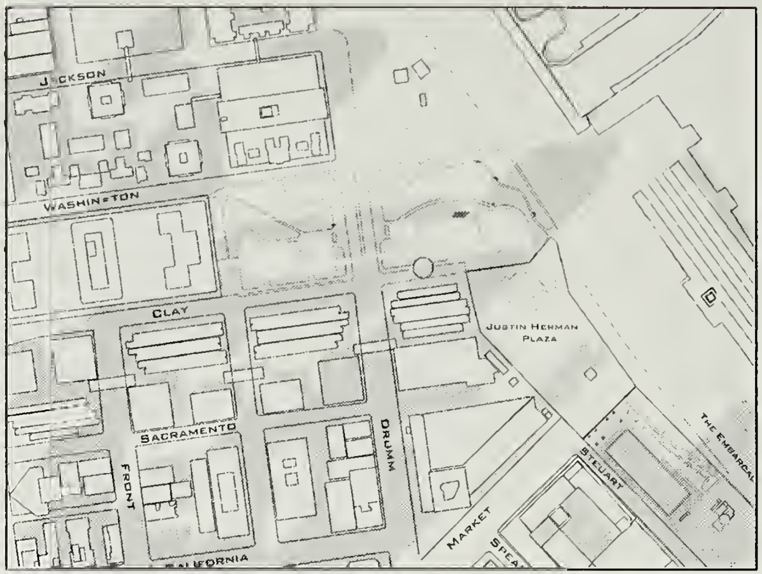
BUTTERFLY DISCOVERY PARK



10:00 AM PDT



NOON PDT



3:00 PM PDT

Legend

■	NET NEW SHADOW
▨	EXISTING SHADOW

0 500 750 1000

Scale in Feet

SOURCE: CADP Associates

FIGURE 3.4-4

Shadow Projections: September 21

394-01•1/01

BUTTERFLY DISCOVERY PARK

would be cast from the pedestrian bridge over Drumm Street, with a small amount of new shadow cast on the open space portion of Block 202. At 3:00 PM, a small area of new shadow would be cast on Block 203.

(iii) June 21

Figure 3.4-3 on p. 3.4-21 shows the existing and project-generated shadow projections for June 21. Due to the position of the sun directly overhead, shading is minimal during all times of the day on this date. The open space portions of the site would experience relatively little shading throughout the day, as shadows from the proposed museum and learning center would not extend far from the edge of the buildings and shadows from the Embarcadero Center buildings would not reach the open space areas.

(iv) September 21

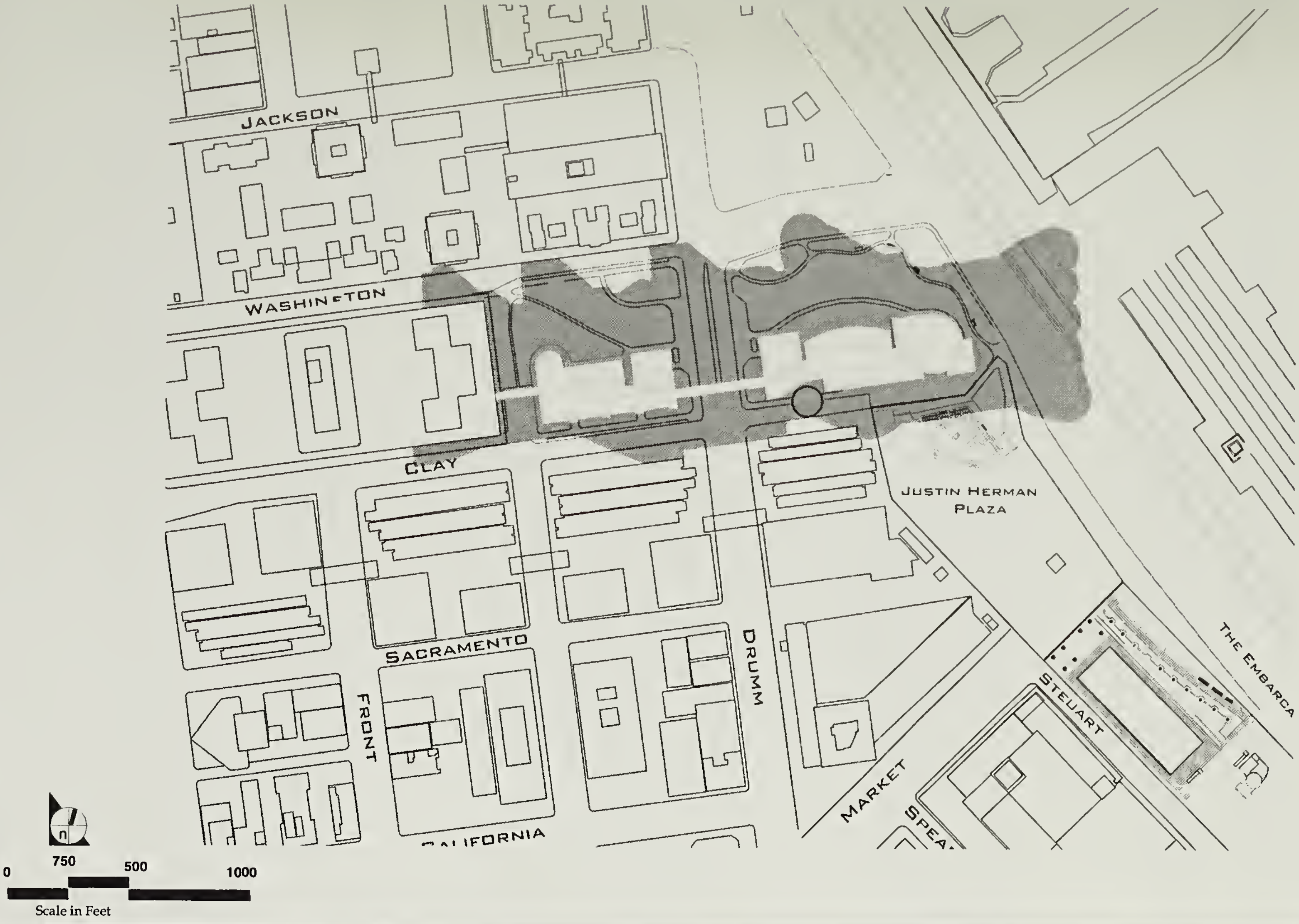
Figure 3.4-4 on p. 3.4-23 shows the existing and project-generated shadow projections for September 21. Shading on this date is similar to March 21, with most shading on site a result of the Embarcadero Center buildings. A small area of new shadow would be cast on the open space portion of Block 202 at 10:00 AM and 12:00 noon.

(v) Annual Shadow Fan

Figure 3.4-5, Annual Shadow Fan, shows the maximum extent of shadow generated by the proposed museum and learning center buildings. Existing shadows are not shown in this graphic. The project shadow fan includes all areas that could be shaded by the museum and learning center buildings between one hour after sunrise and one hour before sunset, year round. The greatest length of shadows would occur when the sun is relatively low in the sky, during early morning and late afternoon hours. As shown, the project annual shadow fan would cover most of the remaining open space on Block 202 and 203, would shade the northernmost part of Justin Herman Plaza including a portion of the Vaillancourt Fountain, and would extend across The Embarcadero roadway. The annual shadow fan would not shade any of the buildings in the Golden Gateway Center. The annual shadow fan would not result in a substantial amount of net new shadow, because the existing high-rise buildings, primarily the Embarcadero Center buildings, currently cast shadows over most of the area shown.

(vi) Conclusion

The proposed museum and learning center buildings would add a relatively small amount of new shadow to the open space on Blocks 202 and 203, the most extensive of which would occur during the winter solstice when shadow lengths are greatest. Based on the annual shadow fan, some new shadow could also be cast on the very northern portion of Justin Herman Plaza. No new shadow from the project would be cast on the Maritime Plaza open space or on the residential buildings of the Golden Gateway Center. Given the extensive shadow already present from the existing high-rise buildings adjacent to the site, and the fact that the project would be exempt from provisions of Planning Code Section 295 which applies to buildings over 40 feet in height, shadow impacts from the proposed project would not be substantial.



SOURCE: CADP Associates

FIGURE 3.4-5

Shadow Projections: Annual Shadow Fan

394-01•1/01

4.0 MITIGATION MEASURES

The following mitigation measures are proposed as part of the project. All of these measures are from the Initial Study (See Appendix 1.0) and are proposed as part of the project.

The EIR identified the loss of publicly accessible open space as a significant environmental impact. No feasible mitigation measures are identified for the impact associated with the loss of open space.

A. NOISE

1. If pile driving is necessary to install pile foundations, the project sponsor would require its contractors to pre-drill holes to the maximum depth feasible on the basis of soil conditions. Contractors would be required to use construction equipment with state-of-the-art noise shielding and muffling devices. The project sponsor would also require its contractors to schedule pile driving activity for times of the day that would be consistent with the Noise Ordinance.

B. AIR QUALITY

2. In accordance with the BAAQMD *CEQA Guidelines*, the project sponsor would require the contractor to implement the following dust control measures: a) Water all active construction areas at least twice daily; b) Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard; c) Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites; d) Sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas at construction sites; and e) Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets.

C. WATER QUALITY

The project sponsor would ensure that groundwater from site dewatering and stormwater runoff meets the discharge limitations of the City's Industrial Waste Ordinance by carrying out the following:

3. If dewatering were necessary, the project sponsor would follow the recommendations of the geotechnical engineer or environmental remediation consultant, in consultation with the Bureau of Environmental Regulation and Management of the San Francisco Public Utilities Commission, regarding treatment, if any, of pumped groundwater prior to discharge to the combined sewer system.

If dewatering were necessary, groundwater pumped from the site would be retained in a holding tank to allow suspended particles to settle, if this were found to be necessary by the Bureau of Environmental Regulation and Management of the San Francisco Public Utilities Commission to reduce the amount of sediment entering the combined sewer system.

D. CULTURAL RESOURCES

4. The project sponsor would retain an archaeologist to conduct a detailed literature search and a pre-excavation testing program to evaluate the probability of finding buried historic archaeological remains within the portion of the site proposed for development. If, after a literature search and testing, the archaeologist determines that no further investigations or precautions are necessary to safeguard potentially significant archaeological resources, the archaeologist would submit a written report to the Environmental Review Officer, with a copy to the project sponsor. If the archaeologist determines that further investigations or precautions are necessary, he or she would consult with the Environmental Review Officer, and they would jointly determine what additional procedures are necessary to minimize potential effects on archaeological resources.

These additional measures would be implemented by the project sponsor and could include a program of on-site monitoring of all site excavation, during which the archaeologist would record observations in a permanent log. The monitoring program, whether or not there are findings of significance, would result in a written report to be submitted first and directly to the Environmental Review Officer, with a copy to the project sponsor. During the monitoring program, the project sponsor would designate one individual on site as its representative. This representative would have the authority to suspend work at the site to give the archaeologist time to investigate and evaluate archaeological resources if they are encountered.

If evidence of historic archaeological resources of potential significance were found during the monitoring program, the archeologist would immediately notify the Environmental Review Officer, and the project sponsor would halt any activities that the archaeologist and the Environmental Review Officer jointly determine could cause damage to such cultural resources.

After notifying the Environmental Review Officer, the archaeologist would prepare a written report to be submitted first and directly to the Environmental Review Officer, with a copy to the project sponsor, which would contain an assessment of the potential significance of the find and recommendations for what measure should be implemented to minimize potential effects on archaeological resources. Based on this report, the Environmental Review Officer would recommend specific additional measures to be implemented by the project sponsor. These additional measures could include a site security program, additional on-site investigations by the archaeologist, or documentation, preservation, and recovery of cultural material.

Finally, the archaeologist would prepare a report documenting the cultural resources that were discovered, an evaluation as to their significance, and a description as to how any further archaeological testing, exploration, or recovery program is to be conducted.

5.0 OTHER CEQA CONSIDERATIONS

A. SIGNIFICANT ENVIRONMENTAL EFFECTS THAT CANNOT BE AVOIDED IF THE PROJECT IS IMPLEMENTED

In accordance with Sections 21100 (b)(2)(A) and 21100.1 (a) of the California Environmental Quality Act (CEQA), and Section 15126.2 (b) of the State CEQA Guidelines, the purpose of this chapter is to identify significant impacts that could not be eliminated or reduced to an insignificant level by implementing mitigation measures included as part of the project or by other mitigation measures that could be implemented, identified in **Section 4.0, Mitigation Measures.** This Chapter is subject to final determination by the Planning Commission as part of the certification process for the EIR.

With development of the project, land uses on the site would change from primarily open space to a mix of institutional (museum and learning center) and open space uses. The elimination of the continuous nature of open space on Blocks 202 and 203 would affect different user groups in different ways. The construction of buildings in the current location of pedestrian paths could limit people's use of the site as a pedestrian pathway and would require people to circumvent the buildings on certain routes through the site. Development of the project would involve the removal of the gazebo/sitting area in the northwest corner of Block 202, reduce turf seating, and create a shortage of non-lawn sitting opportunities in the open space part of the site during the lunch hour on warm days. The project would, however, develop pocket seating areas along the pathways through the open space.

Since the landscaping plan has not been finalized, it is not known whether existing lawn areas would remain as open turf or would be partially or entirely replaced with trees and shrubs. However, the project would be expected to limit the extent to which active recreational activities could occur on Block 202. Since no active recreational activities were observed on the lawn areas on Block 203, the project development would not affect the use of that block for such activities.

The loss of publicly accessible open space in a dense urban setting, while affecting a limited number of users and viewers in the immediate vicinity, has been conservatively identified as a significant environmental impact. No feasible mitigation measures have been identified associated with the loss of open space.

B. SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES WHICH WOULD BE INVOLVED IN THE PROPOSED ACTION SHOULD IT BE IMPLEMENTED

Significant irreversible environmental effects or changes that could occur if the proposed project were implemented would be in the area of land use, as discussed above in Section 5.0(A), Significant Environmental Effects.

The project would result in the development of a public open space area in the Financial District of San Francisco. The project would thus dictate the future land use of the site for at least the life of the project. The project would also result in an irreversible commitment of energy resources, primarily in the form of fossil fuels, including fuel oil, natural gas, and gasoline or diesel fuel for construction equipment and automobiles, and during construction and ongoing use of the site. The project would meet current state and local codes pertaining to energy consumption, including Title 24 of the California Code of Regulations. As such, the project would not result in a wasteful use of energy. The consumption or destruction of other non-renewable or slowly renewable resources would also result during construction, occupancy, and use of the site. The project would also irreversibly use water, communication, and other public utilities. However, the project would not involve a large commitment of those resources relative to supply, nor would it consume any of those resources wastefully or in an unnecessary manner.

6.0 ALTERNATIVES

A. PURPOSE

The purpose of the Alternatives section of this EIR is to assess a range of reasonable alternatives to the proposed project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and to evaluate the comparative merits of the alternatives (CEQA *Guidelines* Section 15126 (d)(1)). CEQA also states that "the EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project." Generally, significant effects of an alternative shall be discussed, but in less detail than the proposed project, and should provide decision-makers perspective as well as a reasoned choice. However, the *Guidelines* state that the selection of alternatives should be governed by a "rule of reason."

B. ALTERNATIVES TO THE PROJECT

To develop project alternatives, the EIR preparers reviewed the significant impacts in Chapter 3.0, identified those impacts that could be substantially avoided or reduced through an alternative, and determined the modifications that would be needed. In general, most of the potential impacts of the project would be less than significant, thus limiting the range of alternatives that could be explored. The only significant impact that could be avoided through modifications to the project on site is the land use impact related to the loss of public open space. Alternative 2, discussed below, specifically responds to this significant impact. In addition, this chapter includes a summary of alternative sites that were considered and rejected.

B1. Alternative 1: No Project Alternative

B1(a) Description

A project-specific EIR typically analyzes a No Project alternative that is the equivalent of a "no development" alternative. That is, the No Project alternative would result in withdrawal of the project being analyzed, and the resulting impacts would generally be a maintenance of existing (and future baseline) environmental conditions.

Under the No Project Alternative, the proposed project would not be built on Blocks 202 and 203. The existing PUC pump station, pedestrian pathways, seating areas, and gazebo would not be demolished as part of the project.

B1(b) Discussion of Impacts

If this alternative were implemented, none of the impacts associated with the project would occur. Blocks 202 and 203 would continue to be used as public open space.

As there would be no change in the use of the project site, a text amendment to the *General Plan* to allow the proposed project within the Public Open Space designation would not be required. No loss of the existing publicly accessible open space would occur. The construction of a garage beneath Block 202 by the Port of San Francisco would change the character of open space areas on Block 202 where the garage entrances and exits are provided.

The proposed project would not result in any significant traffic impacts related to the Level of Service at local intersections. Since this alternative would not generate additional traffic, it would also not result in any significant impacts related to traffic. Similarly, Alternative 1 would not change transit or parking demand, change conditions with respect to pedestrians or bicyclists, create any needs with respect to freight or passenger loading or off-site bus parking, or result in any construction impacts. Some changes in transportation conditions could occur near the project site if the Port of San Francisco constructs a garage beneath Block 202.

The proposed project would not result in any significant visual impacts. Alternative 1 would not change the use of the project site and thus views of the site would not change. Trees on the site would still be removed as part of projects to be undertaken by the City, and trees on Block 202 would be removed if the Port of San Francisco constructs a garage beneath Block 202.

Under this alternative, no impacts related to increased vehicular air pollutant emissions would occur. The proposed project would not result in any significant air quality impacts related to operational emissions or localized carbon monoxide emissions. Since Alternative 1 would not involve new construction and would not result in any project trips, implementation of this alternative would not result in any significant impacts related to operational emissions or localized carbon monoxide emissions. The proposed project would not result in any significant shadow impacts; Alternative 1 would not result in the addition of shadow to the project site or the northern portion of Justin Herman Plaza.

B2. Alternative 2: On-Site, Block 202

B2(a) Description

Alternative 2 would retain a design for Block 202 similar to that proposed for the project. Under this alternative, however, Block 203 would not be part of the project site. As described for the proposed project, the building that would built on Block 202 would consist of approximately 65,000 square feet; for this EIR, it is assumed that the uses would be similar to those proposed for the project (entrance/ticketing/lobby, exhibit space, the butterfly conservatory, food service, a gift shop, and an off-street loading facility). The building would be two or three stories, with heights ranging from 30 to 40 feet. The most prominent feature would be the 40-foot-high glass butterfly conservatory on the east side of the building; the conservatory would be connected to a two-story building. For this EIR, it is assumed that, similar to the proposed project, attendance would be approximately 400,000 visitors yearly.

B2 (b) Discussion of Impacts

Under this alternative, the significant impact related to the loss of open space would be reduced but not eliminated, given that development would occur only on Block 202 and not on Block 203. The gazebo/sitting area on Block 202 would still be removed, as would the pathway between Justin Herman Plaza and the gazebo/sitting area. The use surveys conducted for this EIR (summarized in Section 3.1, Land Use, Zoning, and Plan Consistency) indicate that Block 202 is used more than Block 203 by people sitting and by those engaged in active recreational activities. Therefore, this alternative would not substantially lessen the potential impacts to the open space use of the site, and the impacts would remain significant.

The proposed project would not result in any significant traffic impacts related to the Level of Service at local intersections. The number of visitors would be the same under this alternative, and thus the traffic impacts would be similar to those described for the proposed project. Similarly, Alternative 2 would result in similar (less-than-significant) impacts with respect to transit and parking demand, pedestrians and bicyclists, freight and passenger loading, off-site bus parking and construction. However, development on Block 202 only would reduce the curb space that would be available for passenger drop off and pick up. Only two bus spaces would be available on the east side of Drumm Street between Washington and Clay Streets. Additional passenger zone space could potentially be provided on the south side of Washington Street between The Embarcadero and Drumm Street.

The proposed project would not result in any significant visual impacts. Under Alternative 2, views of Block 203 would not change from current conditions. The change in views of Block 202 would be the same as described for the proposed project. Impacts to views from The Embarcadero would be similar to the impacts of the proposed project; views from Drumm Street and Maritime Plaza would be altered, but to a lesser extent than under the proposed project. Trees on Block 203 would not be removed as the result of Alternative 2, but would be removed as part of projects to be undertaken by the City.

Under this alternative, air quality impacts related to project operation would be the same as for the proposed project, and would be less than significant. Construction air quality impacts would be the same during the time that the Phase I building is developed, but would not occur during the time that the Phase II building would be developed as part of the proposed project. The proposed project would not result in any significant shadow impacts; Alternative 2 would not result in the addition of shadow to Block 203.

C. ALTERNATIVE SITES CONSIDERED AND REJECTED

C1. Main and Spear Streets Site

The approximately 54,000 square-foot (1.24-acre) Main and Spear Streets site in the South of Market District of San Francisco consists of Lots 27, 29, 30, 31, and 32 of Assessor's Block 3270. The City leases Lot 27 to a private operator for use as a surface public parking lot. Lots 31 and 32 are also operated as a surface public parking lot, and all of the parking lots together have a total of 264 spaces. Lots 29 and 30 contain two adjacent, one- to two-story structures that occupy about 12,000 square feet of the site. The building on Lot 30 is retail space occupied by the Books, Inc. Outlet. The building on Lot 29 is office and warehouse space. Lot 27 is zoned P (Public), and the other lots are zoned C-3-S District (Downtown Support). The entire site is within a 200-S Height and Bulk district.

As noted in **Section 3.0, Project Description**, the total building footprint for the proposed project (the Phase I and Phase II buildings) would be 58,000 square feet. The Main and Spear Streets site is 54,000 square feet and thus, would not be large enough to accommodate the proposed buildings or proposed open space areas. For that reason, the Main and Spear Streets site was rejected as an infeasible site.

C2. Sites Considered for deYoung Museum

In addition to the site mentioned above, three alternative sites studied in the *M.H. deYoung Memorial Museum Site Selection Study* (1997) were considered. For the deYoung Study, the Trustees of the Fine Arts Museums of San Francisco reviewed development and location options to accomplish the goals of providing a structurally sound, upgraded museum at an appropriate site in San Francisco. The Study summarized the potential museum sites considered. These sites include the Transbay District site, a site at Broadway and The Embarcadero, and Golden Gate Park. The study ranked each of the sites, based on size, location, accessibility, context, and development feasibility. Briefly, the current status of the sites is as follows:

- The re-use of the 3.8-acre Transbay District site would require permanent relocation of the Transbay Transit Terminal in variance with policies adopted by the voters and the San Francisco Board of Supervisors. Therefore, the site would not be available.
- The 3-acre Broadway/Embarcadero site, a triangular parcel, is owned by the Port of San Francisco; the Port has offered the site for a lease for a hotel development.
- The Golden Gate Park site will be the site of the rebuilt deYoung Museum.

Therefore, these sites have been eliminated from further consideration as potential alternative sites for the proposed project.

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8.0 LIST OF EIR PREPARERS AND ORGANIZATIONS AND PERSONS CONSULTED

A. LIST OF EIR PREPARERS

The following persons/organizations were involved in the preparation of this EIR.

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Brett Hondorp, Staff Analyst
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B. ORGANIZATIONS AND PERSONS CONSULTED

B1. General

- City and County of San Francisco

  Lezley Buford, Senior Environmental Planner

  Lisa Posternak, Planner

- Port of San Francisco

  Alec Bash, Waterfront Planner

  Diane Oshima, Manager of Regulation and Environmental Affairs

- San Francisco Art Commission

  Deborah LeHane, Civic Arts Program Director

- San Francisco Public Utilities Commission

  Gary Dowd

  Beth Goldstein

- Butterfly Discovery Park

  Laurie Adams

  Paul Growald

  Adam Stern

  Erika Lovejoy

APPENDIX 1.0

Butterfly Discovery Park Initial Study

PLANNING DEPARTMENT

City and County of San Francisco 1660 Mission Street San Francisco, CA 94103-2414

(415) 558-6378
PLANNING COMMISSION FAX: 558-6409
ADMINISTRATION FAX: 558-6426
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December 2, 1999

TO: Interested Parties:

RE: 1999.244E -- Butterfly Discovery Park Environmental Impact Report

The Planning Department has determined that an Environmental Impact Report (EIR) is required for the above-referenced project which is described below. Notice of publication of this document will be printed in a newspaper of general circulation on the day following the day that this was mailed to you.

PROJECT DESCRIPTION

The proposed project involves the construction of two 2 and 3-story buildings totaling 150,000 square feet. The primary use would be a butterfly and insect museum (Butterfly Discovery Park) with related facilities including food service, office and retail space. The 5.3 acre project site is bounded by the Embarcadero, Clay Street, Washington Street, and the Davis Street right-of-way . Project construction would occur on the southern portion of the east block (Assessor's Block 202) in Phase One, and on the southern portion of the west block (Assessor's Block 203) in Phase Two. A pump station on Block 203 would be removed and this area and the northern portion of both blocks would be landscaped and retained as public open space. The proposed structures would reach a maximum height of 40 feet, and would include roof gardens and a pedestrian bridge across Drumm Street.

The Planning Department has determined that an EIR must be prepared for the proposed project prior to any final decision regarding whether to approve the project. The purpose of the EIR is to provide information about potential significant physical environmental effects of the proposed project, to identify possible ways to minimize the significant effects, and to describe and analyze possible alternatives to the proposed project. Preparation of an EIR does not indicate a decision by the City to approve or to disapprove the proposed project. However, prior to making any such decision, the decision makers must review and consider the information contained in the EIR.

With publication and distribution of the EIR Requirement Notice and Initial Study, the Planning Department is seeking input on the scope and contents of the EIR. Please forward any comments to **Lezley Buford** at the Planning Department (address shown above) by January 3, 2000. If you have any questions or would like to receive a copy of the Initial Study, please contact **Lezley Buford** at 558-6384.

NOTICE THAT AN
ENVIRONMENTAL IMPACT REPORT
IS DETERMINED TO BE REQUIRED

Date of this Notice: December 3, 1999

Lead Agency: Planning Department, City and County of San Francisco
1660 Mission Street - 6th Floor, San Francisco, CA 94103-2414

Agency Contact Person: Lezley Buford, AICP **Telephone:** (415) 558-6384

Project Title: Butterfly Discovery Park

Project Sponsor: Coevolution Fund (Butterfly Discovery Park)
423 Washington St. 4th Floor
San Francisco, CA 94111
Contact Person: Laurie Adams
Contact Phone : (415) 362-1137

Project Address: N/A
City and County: San Francisco

Assessor's Blocks: 202 and 203

Project Description: The proposed project involves the construction of two 2 and 3-story buildings totaling 150,000 square feet. The primary use would be a butterfly and insect museum (Butterfly Discovery Park) with related facilities including food service, office and retail space. The project site is located west of the Ferry Building, north of Justin Herman Plaza and the Embarcadero Center. Block 202 is currently landscaped with a large, grassy area and trees and includes paved walkways and a sitting area. Block 203 contains a lawn area, trees, a pedestrian path between Clay and Washington Streets, a pump station and an elevated pedestrian path and decks connecting to the Maritime Plaza open space area. The proposed project would include the demolition of the pump station. The project site is zoned public (P) and is within an Open Space (OS) height and bulk district.

THIS PROJECT MAY HAVE A SIGNIFICANT EFFECT ON THE ENVIRONMENT AND AN ENVIRONMENTAL IMPACT REPORT IS REQUIRED. This determination is based upon the criteria of the Guidelines of the State Secretary for Resources, Section 15063 (Initial Study), 15064 (Determining Significant Effect), and 15065 (Mandatory Findings of Significance), and the following reasons, as documented in the Environmental Evaluation (Initial Study) for the project, which is attached.

Deadline for Filing of an Appeal to the Planning Commission of this Determination that an EIR is required: **January 3, 2000.** An appeal requires: 1) a letter specifying the grounds for the appeal, and; 2) a $209.00 filing fee. The public is invited to comment on the scope of the EIR. Such comments must be received by **January 3, 2000** to ensure consideration in preparing the Draft EIR.

cc: Case Tracking
Distribution List
Bulletin Board

BUTTERFLY DISCOVERY PARK
INITIAL STUDY
1999.244E

I. PROJECT DESCRIPTION

As shown in **Figure 1, Project Site Location**, the project site is located in the Financial District of downtown San Francisco, on a 230,550-square-foot (5.3-acre) site consisting of Assessor's Blocks 202 and 203.

Block 202, which has an area of approximately 126,150 square feet, is bounded by The Embarcadero on the east, Washington Street on the north, the Four Embarcadero Center loading driveway on the south, and Drumm Street on the west. Block 202 is currently used as landscaped open space, with a large turf area, paved walking paths, groups of trees, and a sitting area.

Block 203, which has an area of approximately 104,400 square feet, is bounded by Drumm Street on the east, Washington Street on the north, Clay Street on the south, and the Davis Street right-of-way on the west. This block currently contains turf areas, trees, a pedestrian path between Clay and Washington Streets, a non-operating one-story pump station, and an elevated pedestrian path and decks connecting to the Maritime Plaza podium-level open space area to the west. On one of the decks leading to the Maritime Plaza is a sculpture entitled "Movement: The First 100 Years," which commemorates U.S.-Korea relations.

The 1,750-square-foot pump station building is within a 7,150-square-foot fenced area in the northeast corner of Block 203. The pump station is under the jurisdiction of the San Francisco Public Utilities Commission (the station was formerly under the jurisdiction of the Department of Public Works). The northern 3/5 of Block 202 are under the jurisdiction of the Recreation and Park Department. The entire site is owned by the City and County of San Francisco, with the balance of both blocks under the jurisdiction of the Department of Real Estate. The Department of Real Estate property was transferred to the City from the State Department of Transportation following demolition of the Clay and Washington Street ramps to/from the Embarcadero Freeway, which were removed following the 1989 Loma Prieta earthquake.

The project would involve the construction of the Butterfly Discovery Park, a butterfly and insect museum on Blocks 202 and 203. **Figure 2, Project Site Plan and Elevations**, illustrates the proposed site plan and elevations. As shown, the museum would consist of two separate buildings, one in the southern portion of each block, connected by a pedestrian bridge over Drumm Street. Phase I would be constructed on Block 202 and Phase II would be constructed on Block 203. The footprint of the Phase I structure would not encroach into the area of Block 202 under the jurisdiction of the Recreation and Park Department. **Table 1, Proposed Land Uses**, shows the breakdown of proposed uses by block.

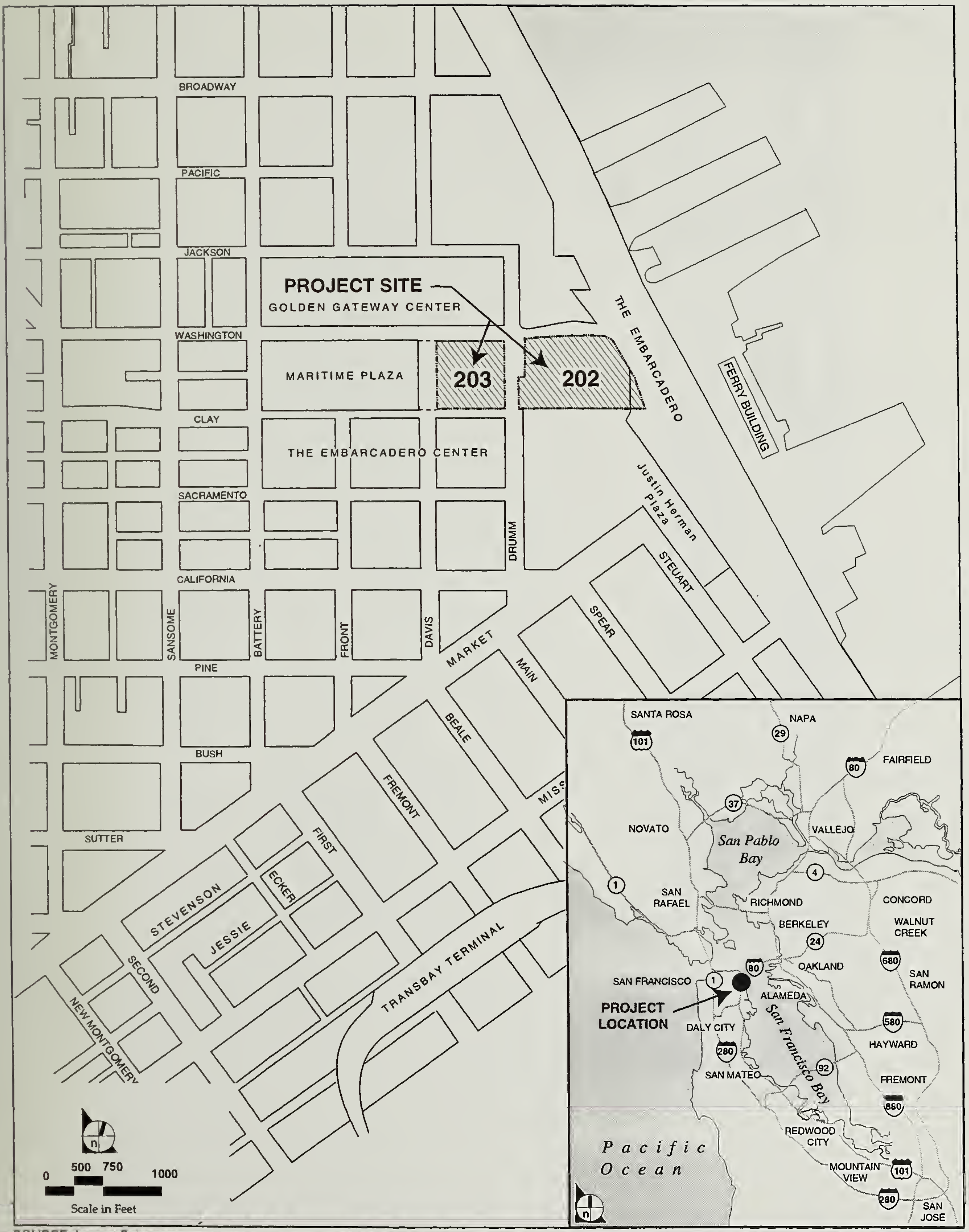
The proposed buildings would be two to three stories, with heights ranging from 30 to 40 feet. The design of the proposed buildings is still in a conceptual stage. The most prominent feature would be the 40-foot-high glass butterfly conservatory on the east side of the Phase I building; the conservatory would be connected to a two-story building. The proposed buildings would be steel framed and would incorporate as much glass as possible to achieve interiors that are light and airy. The main entrance to each of the proposed buildings (Phases I and II) would face Drumm Street; both would be located under a glass-domed ceiling (the main entrance to the Phase I building on Block 202 would serve as the primary visitor entrance).

Table 1
Proposed Land Uses

Proposed Use	**Area (Square Feet)**
Block 202 (Phase I)	
Entrance/Ticketing/Lobby	7,000
Butterfly Conservatory	10,000
Exhibit Space	31,000
Administration	5,000
Food Service and Retail	6,000
Other	6,000
Subtotal	65,000
Block 203 (Phase II)	
Exhibit Space	40,000
Educational Facilities	16,000
Administration	12,000
Members' Lounge	4,000
Storage	5,000
Other	8,000
Subtotal	85,000
Total Building Floor Area	150,000
Total Building Footprint	58,000

Note: All square footage numbers are gross.
Source: Butterfly Discovery Park

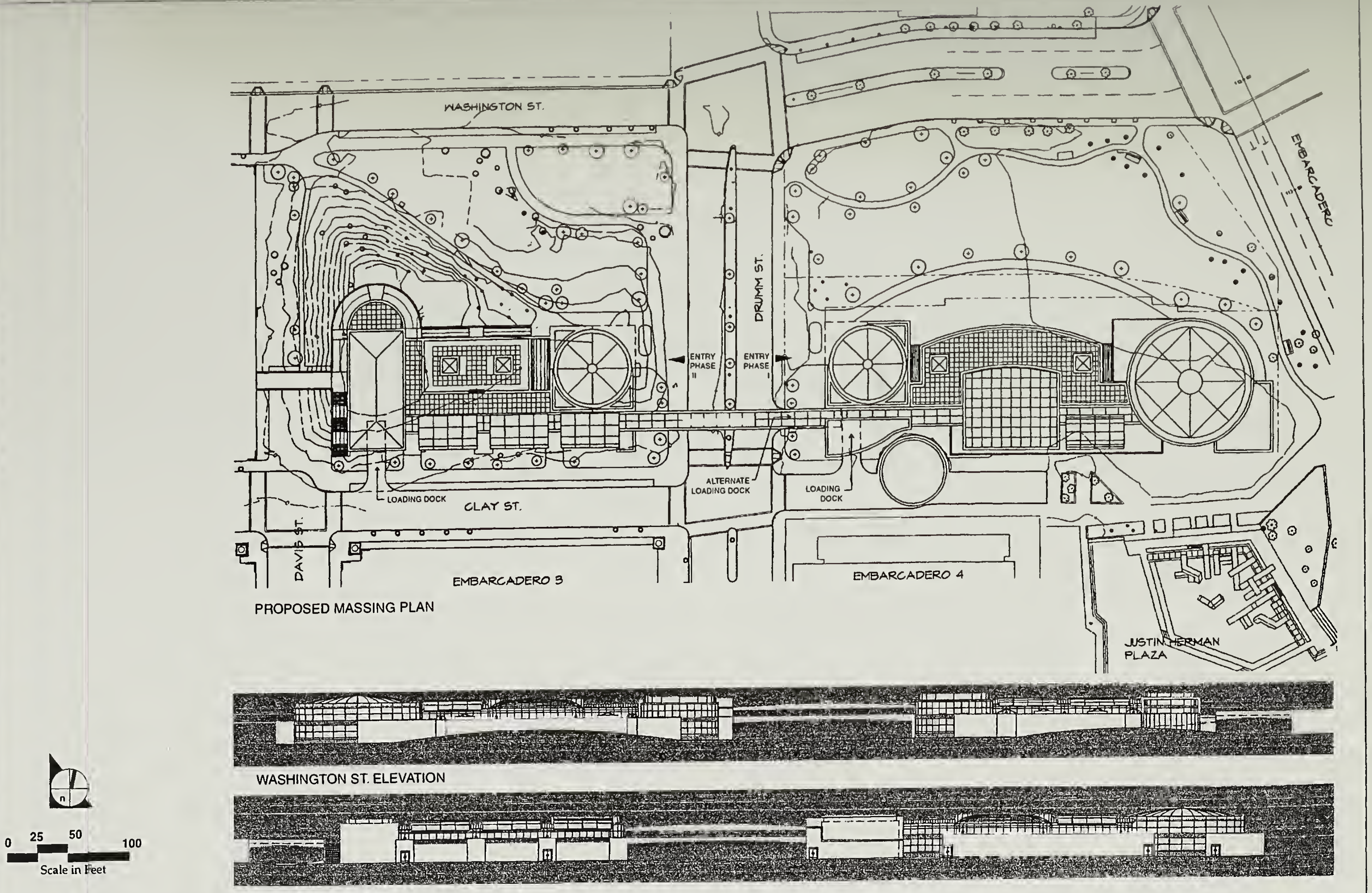
The building would be built to conform to U.S. Department of Agriculture (USDA) construction standards for educational displays of nonindigenous butterflies, other insects, and spiders; these standards require design features that minimize the risk of escape of the enclosed insects. In addition, operation of the live insect displays would require that the museum adhere to USDA guidelines requiring sterilization or decontamination equipment to kill any invertebrates or microorganisms on contaminated or infested articles. This would require the installation of an autoclave (a machine that relies on a chamber of high temperature and pressure to sterilize laboratory equipment, much like a large pressure cooker) in the pupa holding room, along with the use of alcohol and bleach solutions in insect killing jars.



SOURCE: Impact Sciences

FIGURE 1

Project Site Location



SOURCE: Gerson/Overstreet Architects

FIGURE 2

Project Site Plan and Elevations

To the maximum extent feasible, vegetation would be planted in close proximity to the buildings, while meeting USDA construction requirements, and without affecting the structural integrity of the proposed buildings. To enhance the visual quality of the structures, landscaped roof gardens would be incorporated into the building design. The project sponsor intends to design the roof gardens so that they would be open only to persons visiting the Butterfly Discovery Park complex. Beverage and snack cart services may be provided on the roof gardens.

The Butterfly Discovery Park would operate seven days per week. The operating hours would be from 10:00 A.M. to 6:00 P.M. PST and from 10:00 A.M. to 8:00 P.M. PDT and during certain holidays. The initial hours of operation may be shorter. There would also be an average of one special evening event per week throughout the year. The proposed restaurant would be open from 10:00 A.M. to 10:00 P.M. Sunday through Thursday and from 10:00 A.M. to 11:00 P.M. on Fridays and Saturdays.

Attendance is expected to be approximately 420,000 visitors in the first year, with a sustainable annual attendance of around 400,000 thereafter. It is anticipated that approximately 20% of the annual visitors would be group visits consisting of 30 to 50 persons in each group. It is expected that the majority of the group visitations would be school children and would occur during off-peak periods between September and May. The last group tour would begin at approximately 2:00 P.M. each day. Attendance for special evening events would range from 100 to 500 persons per event.[1]

According to the project sponsor, the Butterfly Discovery Park would employ an equivalent of about 38 permanent full-time employees after completion of Phase I, and an additional 17 permanent full-time employees after completion of Phase II. During the summer period there would be additional part-time employees.

The western portion of the proposed Phase II museum building would be built in the location of the elevated decks and sculpture on Block 203. The sculpture would be relocated within the open space portion of the project; at this time, a specific new location has not been determined. The pedestrian bridge to Alcoa Plaza would be retained and incorporated into the Phase II building design. Development of Phase II would involve removal of the Public Utilities Commission pump station building and maintenance yard on Block 203. The area occupied by the pump station would be landscaped and included in the open space portion of the project.

After completion of the Phase I building, approximately 90,915 square feet (or 2.09 acres) of Block 202 would remain as public open space. Upon completion of both Phase I and Phase II of the project, the proposed building footprints would occupy approximately 58,000 square feet, leaving 172,550 square feet (3.96 acres, or 75%) of Blocks 202 and 203 as public open space. The open space areas would generally be located to the north of the museum buildings, fronting on Washington Street.

The project sponsor has proposed modifying the landscape of remaining open space areas on the site to be compatible with the museum design. Within the open space areas, hard surfaces would consist mainly of meandering pedestrian paths with pocket sitting areas throughout the softscape areas. The locations of the pedestrian paths would be similar to those currently in use. Although a specific landscape plan has not yet been designed, the project sponsor has begun a detailed study of the type of plant materials to be used. The plants to be selected would be mainly indigenous plants to create pocket habitats, which would attract butterflies and other human-friendly insects to the area while creating a neighborhood park setting for relaxation and learning. To the maximum extent feasible, drought-resistant plants would be used. An irrigation system would be included in the landscaping plan.

The City plans to extend Davis Street through the site to connect Washington and Clay Streets; if all approvals are granted, the extension is anticipated to be open in 2000. The proposed project reflects the planned extension of Davis Street, but could be accomplished whether or not Davis Street is extended.

The proposed Butterfly Discovery Park would involve the development of structures on both blocks, with the main entrance to each building located on Drumm Street. The project does not propose any on-site automobile parking spaces. The project sponsor will request the Department of Public Works to designate 100 feet of white passenger loading zone in front of the entrance to each of the proposed buildings on Drumm Street. The project would provide 110 feet of tour bus loading zone, sufficient for two buses, on each side of Drumm Street. The project sponsor would request school bus operators to drop off the school children and return to their yard on Toland Street, and then return to pick up the children at a specified time. The project sponsor would make arrangements for tour bus parking off-site, at a location to be determined.

For the loading and unloading of goods, the applicant has met and will be negotiating with Four Embarcadero Center to gain shared access to that building's loading driveway, located south of Block 202. If shared access is obtained, goods loading would be conducted at a bay on the south side of the museum. If shared access is not obtained, truck loading activities would occur from Drumm Street, Washington Street, or The Embarcadero.

The project sponsor would provide five secured bicycle parking spaces for its employees inside the Phase I building, and three secured bicycle parking spaces in the Phase II building; the number of spaces exceeds the Planning Code requirements for bicycle parking. Bicycle racks to accommodate 30 to 60 bicycles would be interspersed near the sidewalks around the project site to accommodate visitors to the facility and the public open space; the specific locations of these racks would be identified in the landscaping plan.

Within the landscaped portions of the site, pedestrian walkways would be provided linking to the sidewalks along Washington, Clay, and Drumm Streets, The Embarcadero, and Justin Herman Plaza. On Block 203, the existing pedestrian bridge to the Maritime Plaza would incorporated into the Phase II design. The project sponsor is proposing an enclosed pedestrian bridge across Drumm Street linking the upper levels of the Phase I building on Block 202 and the Phase II building on Block 203 to avoid pedestrian and vehicular conflict and to ensure the safety of visiting children. Although the bridge has not been designed yet, the materials used would be consistent with the proposed museum buildings. The bridge span would be about 150 feet long; the bottom of the bridge would rise approximately 15.5 feet above street level, and the top of the bridge would be approximately 28 feet above street level. According to the San Francisco Fire Department, the 15.5-foot clearance for the bridge is sufficient.[2]

II. SUMMARY OF POTENTIAL ENVIRONMENTAL EFFECTS

A. EFFECTS FOUND TO BE POTENTIALLY SIGNIFICANT

This Initial Study examines the Butterfly Discovery Park project to identify its potential effects on the environment. On the basis of this Initial Study, project-specific effects that have been determined to be potentially significant relate to land use (loss of open space), visual quality (view obstruction and tree removal), transportation, and air quality. Other visual quality impacts and shadow effects will be discussed in the EIR for informational purposes. Topics noted "TO BE DETERMINED" mean that discussion in the EIR will enable a determination of whether or not there would be a significant impact.

B. EFFECTS FOUND NOT TO BE SIGNIFICANT

The following effects of the Butterfly Discovery Park project have been determined to be less than significant or to be mitigated through measures included in the project: population, noise, air quality, utilities/public services, biology, geology/topography, water, energy/natural resources, hazards, and cultural resources. These issues are discussed below and require no further environmental analysis in the EIR.

III. ENVIRONMENTAL EVALUATION CHECKLIST AND DISCUSSION

A. COMPATIBILITY WITH EXISTING ZONING AND PLANS

	Not Applicable	Discussed
1. Discuss any variances, special authorizations, or changes proposed to the City Planning Code or Zoning Map, if applicable.		X
2. Discuss any conflicts with any adopted environmental plans and goals of the City or Region, if applicable.		X

The project site is designated as Public Open Space in the Recreation and Open Space Element of the San Francisco *General Plan*. The project sponsor has proposed a text amendment to the *General Plan* to allow for the proposed museum use within the Public Open Space land use designation. A *General Plan* amendment requires approval by the Planning Commission and Board of Supervisors.

The site is zoned P (Public), with an OS (Open Space) height and bulk district on the Zoning Map of the San Francisco Planning Code. The designations apply to areas with transportation facilities, parks, and government office buildings and reflect the site's former use as freeway ramps and current use as open space. Under Section 234.2 of the Planning Code, the institutional uses listed in Section 209.3 (d) of the

Planning Code – "social service or philanthropic facilities providing assistance of a charitable or public service nature and not of a profitmaking or commercial nature" – are conditional uses within a Public Use District. The project sponsor has obtained a determination from the Zoning Administrator that the project falls under Sections 209.3 (d) and 234.2, and can be developed as a conditional use under the P District. Development would require approval of a conditional use permit by the Planning Commission.

The Butterfly Discovery Park project would also require review by the Planning Commission and by the Board of Supervisors on appeal for consistency with the San Francisco *General Plan*. Applicable Area Plans and Elements of the *General Plan* include the *Northeast Waterfront Plan*, the Urban Design Element, and the Recreation and Open Space Element. In addition, the northerly half of Block 202 is within the Embarcadero-Lower Market (Golden Gateway) Redevelopment Plan Area. A discussion of the proposed *General Plan* and Planning Code amendments, as well as relevant *General Plan* policies, will be included in the EIR.

B. ENVIRONMENTAL EFFECTS

Except for the categories of land use, visual quality, transportation, air quality, and cultural resources, all items on the Initial Study checklist incorporated herein have been checked "No," indicating that, upon evaluation, staff has determined that the proposed project could not have a significant environmental effect in those areas. The text following each topic includes discussion of the particular checklist items. For each checklist item, the evaluation has considered the impacts of the project both individually and cumulatively.

1. Land Use. Could the project:	Yes	No	Discussed
a. Disrupt or divide the physical arrangement of an established community?		X	X
b. Have any substantial impact upon the existing character of the vicinity?	TO BE DETERMINED.		

The project site is currently in open space use, and is occupied by turf areas, pedestrian paths, trees, and sitting areas. The proposed project would result in the construction of a museum/conservancy on the site with a 58,000-square-foot building footprint, and demolition of a pump station within a 7,150-square-foot fenced yard, for a net reduction in public open space area of 50,850 square feet (from 223,400 square feet to 172,550 square feet). The project would not disrupt or divide the neighborhood, since it would be constructed on two contiguous blocks and there is no established community on the site. However, the proposed museum building on Block 202 would divide the remaining open space in the northern part of the block from the adjacent public open space at Justin Herman Plaza. A small landscaped area would be provided between the museum building and the Vaillancourt Fountain in Justin Herman Plaza, but pedestrians would be required to walk around the building in order to access the main open space area in the northern part of the block. Pedestrians walking onto the site from Justin Herman Plaza could utilize either a pedestrian walkway to walk around the eastern end of the museum building or a sidewalk along the Four Embarcadero Center loading driveway to walk around the western end of the building. The short distance of additional walking around the building to access the open space might be an inconvenience for some pedestrians but would not represent a significant impact. Land uses adjacent to the site include the Three and Four Embarcadero Center buildings and Justin Herman Plaza to the south, the Maritime Plaza office and retail complex to the west, the Golden Gateway Center (William Heath Davis residential tower and Golden Gateway Tennis and Swimming Club) to the north, and The Embarcadero roadway to the east. On the bay side of The Embarcadero directly east of the project site is a pedestrian walkway known as Herb Caen Way (formerly the Embarcadero Promenade), Pier 1, and the Ferry Terminal building.

Development of a museum/conservancy on the site would not alter the land use of the surrounding area nor would it change its character from that of a mixed-use urban area. However, development of the project would reduce the amount of public open space on Blocks 202 and 203, and could have an effect on the existing recreational use of the site. Given this, land use impacts related to the change of the site's use from open space to a museum will be evaluated in the EIR.

	Yes	No	Discussed
2. Visual Quality. Could the project:			
a. Have a substantial, demonstrable negative aesthetic effect?		X	X
b. Substantially degrade or obstruct any scenic view or vista now observed from public areas?	TO BE DETERMINED		
c. Generate obtrusive light or glare substantially impacting other properties?		X	X

Landform Modification

The project site currently consists of landscaped open space and walkways and seating areas. Block 202 is generally flat, and sits at an elevation of about 0 feet. Block 203 rises from Drumm Street to an elevation of about 14 feet along the western boundary, where an elevated deck and pedestrian bridge to Maritime Plaza are located. The site contains no unique topographic features. The proposed project would involve the development of museum buildings on the southern portion of each block. The most likely foundation for the project would be a structural mat foundation system at or near grade. A total of approximately 2,000 cubic yards of earthwork would be required for each project phase, with an average depth of excavation of about 1.5 feet. The largest amount of excavation would occur on Block 203, for construction on and around the raised topography currently supporting the elevated deck structures. (The existing pedestrian bridge to Maritime Plaza would be incorporated into the design of the Phase II building.) Given that the site is relatively flat and contains no unique topographic features, and that the project would involve a relatively minor amount of grading, impacts related to landform modification would be less than significant.

Negative Aesthetic Effects

Design and aesthetics are by definition subjective, open to interpretation by decisionmakers and members of the public. A proposed project would therefore be considered to have a significant adverse effect on visual quality only if it would cause a substantial and demonstrable negative change, such as construction of an industrial facility in a pristine, natural area. As discussed below, the proposed project would not cause such a change.

The project would involve the development of two museum buildings, each up to 40 feet in height, on the southern portions of Blocks 202 and 203. The northern portion of the blocks would remain as landscaped open space following project development. Land uses adjacent to the site include the Three and Four Embarcadero Center buildings and Justin Herman Plaza to the south, the Maritime Plaza office and retail complex to the west, and the Golden Gateway Center to the north. In general, the height and bulk of the proposed museum buildings would be equal to or substantially lower than that of other development in the Financial District. Given the surrounding high-rise office and residential structures, the proposed 40-foot-high museum buildings and open space would not have a negative aesthetic impact on the area.

Alteration or Obstruction of Views

Short-range views of the project site from Washington Street, Clay Street, Davis Street, and The Embarcadero would be altered by development of the proposed museum buildings. Views from existing public open space, including the northern portion of Blocks 202 and 203 and Alcoa Plaza, would also be altered with development of the project. The EIR will evaluate the change in short-range views from adjacent public roadways and open space, using photomontages of the proposed buildings in the context of surrounding structures. Long-range views of the project, such as those from Twin Peaks or Potrero Hill, would be part of overall views of downtown; the proposed museum buildings would not be discernible among the existing high-rise buildings.

Light and Glare

The proposed project would introduce additional night lighting to the site. The site currently contains light poles along the pedestrian pathways and the surrounding area is characterized by a high level of night lighting due to the surrounding office, commercial, and residential high-rise structures and street lighting on adjacent roadways. The museum would operate after dark during certain times of the year, with normal closing hours of 6:00 P.M. PST and 8:00 P.M. PDT and on certain holidays, and with occasional special events that would require later hours of operation. The proposed restaurant would close at 10:00 P.M. Sunday through Thursday and 11:00 P.M. on Fridays and Saturdays. It is expected that security lighting would operate in and around the museum buildings and in the open space areas throughout the night. Down-lighting would be used in the open space landscaped areas. Security lighting in the buildings would be similar to that provided in retail stores and office complexes and would not generate offensive glare to nearby residential or hotel buildings. Given the substantial level of night lighting that currently occurs in the vicinity of the site, additional lighting from the proposed project would not constitute a significant impact.

Tree Removal

The project would result in the removal of approximately 94 existing trees from the site. The visual impacts of tree removal will be discussed in the EIR.

3. Population. Could the project:	Yes	No	Discussed
a. Induce substantial growth or concentration of population?		X	X
b. Displace a large number of people (involving either housing or employment)?		X	X
c. Create a substantial demand for additional housing in San Francisco, or substantially reduce the housing supply?		X	X

The proposed project would involve the development of an invertebrate museum containing exhibits, a butterfly conservatory, and associated food service and retail uses. Some ecological research and educational programs would also be conducted at the facility. At buildout of both Phases I and II, the project is expected to employ approximately 55 people. When considered in the context of downtown San Francisco, this increase in employment would be less than significant. No existing dwellings or jobs would be displaced and there would be no substantial increase in housing demand associated with the employment of 55 people. Given the above information, no impacts to population or housing would occur, and this topic will not be evaluated further in the EIR.

4. Transportation/Circulation. Could the project:	Yes	No	Discussed
a. Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system?	TO BE DETERMINED.		
b. Interfere with existing transportation systems, causing substantial alterations to circulation patterns or major traffic hazards?	TO BE DETERMINED.		
c. Cause a substantial increase in transit demand which cannot be accommodated by existing or proposed transit capacity?	TO BE DETERMINED.		
d. Cause a substantial increase in parking demand which cannot be accommodated by existing parking facilities?	TO BE DETERMINED.		

Visitors and employees of the museum would place increased demands on the local transportation system, including increased traffic, transit demand, and parking demand. The EIR will discuss project effects related to transportation and circulation, including intersection operations, transit demand, and impacts on pedestrian circulation, parking, bicycles, and freight loading, as well as construction impacts.

	Yes	No	Discussed
5. Noise. Could the project:			
a. Increase substantially the ambient noise levels for adjoining areas?		X	X
b. Violate Title 24 Noise Insulation Standards, if applicable?		X	X
c. Be substantially impacted by existing noise levels?		X	X

Existing Noise Environment

The primary source of noise in the vicinity of the project site is traffic. Other sources of noise include people talking in the on-site open space areas and in Justin Herman Plaza, and construction noise due to other projects in the vicinity, such as the Mid-Embarcadero Roadway project. The nearest sensitive receptors would be residents of the William Heath Davis residential towers, located immediately north of Block 203.

Construction Noise and Vibration

Construction of the project would result in off-site noise increases. Construction activities from the project would include excavation and hauling, building erection, and finishing. In addition, considering geotechnical conditions at the site (discussed under checklist item 9, Geology/Topography, below), it is possible that pile driving may be necessary in order to construct a pile foundation system. Off-site noise level increases due to construction activities would be temporary and intermittent and would occur at different times through the phases of project construction.

Construction noise is regulated by the San Francisco Noise Ordinance (Article 29 of the San Francisco Police Code). The ordinance requires that noise levels from individual pieces of construction equipment, other than impact tools, not exceed 80 dB(A) at a distance of 100 feet from the source. Impact tools (jackhammers, pile drivers, impact wrenches) must have both intake and exhaust muffled to the satisfaction of the Director of Public Works. Section 2908 of the Ordinance prohibits construction work between 8:00 p.m. and 7:00 a.m., if the noise would exceed the ambient noise level by five dB(A) at the project property line, unless the Director of Public Works authorizes a special permit. Compliance with the noise ordinance is required by law and would reduce construction noise impacts to a less-than-significant level.

If pile driving were found to be necessary for project construction, it could cause temporary, substantial increases in noise and groundborne vibration. Any pile driving activities would occur intermittently during the placement of piles for the building foundations. Conventional unmuffled and unshielded pile drivers emit typical peak noise levels of 101 dB(A) at a distance of 50 feet and 95 dB(A) at a distance of 100 feet each time the driver strikes a pile.[3] Although vibration impacts vary depending on distance from the source and ground characteristics, vibration from pile driving on the site could be felt in adjacent and nearby buildings. Such vibrations have been found to be more disturbing to some people than high noise levels. In accordance with the Noise Ordinance, the Department of Public Works permits pile driving operation under certain conditions, which may include specifying relatively quiet equipment, pre-drilling pile holes, and limiting hours of operation to reduce the number of people exposed to noise and vibration effects. Because any pile driving activities would be temporary and intermittent, and the project sponsor would be required to comply with the Noise Ordinance and Department of Public Works requirements, potential noise and vibration impacts would be reduced to a less-than-significant level. Refer to page 30 for specific mitigation that would be implemented by the project sponsor to minimize construction noise and vibration from pile driving.

Given the above information, construction-related noise and vibration would not be considered significant and will not be analyzed in the EIR.

Traffic Noise

The project would result in an increase in vehicle trips to the site, which could increase traffic noise levels at off-site locations. However, an approximate doubling of traffic volumes would be necessary to produce an increase in ambient noise levels noticeable to most people. Project-specific traffic projections for the project are not yet available, and will be completed as part of the EIR. However, based on the traffic projections in the Mid-Embarcadero EIS/EIR, which reflect cumulative growth in the vicinity of the project site, the project is not expected to result in a doubling of traffic volumes. The Mid-Embarcadero EIS/EIR projected an increase in the total number of vehicles entering or leaving the area of about 18% during the A.M. peak hour and 10% during the P.M. peak hour. Based on the estimated magnitude of the cumulative traffic increase in the area, a noticeable increase in noise levels in the vicinity of the site would not result.[4] As such, this topic will not be analyzed further in the EIR.

Stationary Noise

The project would include mechanical equipment, such as air conditioning units and chillers, which could produce operational noise. These operations would be subject to the San Francisco Noise Ordinance, Article 29 of the San Francisco Police Code. Compliance with Article 29, Section 2909, would limit noise from building operations, and substantial increases in ambient noise levels due to building equipment noise would not be expected.

The project sponsor has met with and will be negotiating with Four Embarcadero Center to gain shared access to that building's loading driveway, located south of Block 202. If shared access is obtained, goods loading would be conducted at a bay on the south side of the museum. If shared access is not obtained, truck loading activities would occur off Drumm Street, Washington Street, or The Embarcadero. Some impacts to adjacent noise-sensitive receptors (e.g., residents of the Golden Gateway Center) could occur from freight loading and unloading activities. Typical noises would be related to truck doors slamming, rolling hand trucks or dollies up curbs or loading ramps, truck engines starting, and people talking. Freight loading would be expected to occur generally during the normal business hours of the museum. In the context of the relatively high existing traffic noise in the vicinity during the day, noise from freight loading and unloading would not be substantial, and would not represent a significant impact.

Interior Noise

The proposed project is a museum, and as such is not subject to the Title 24 noise standards, which apply to residential and certain other uses. With standard construction materials, the museum would be expected to have an exterior-to-interior noise reduction of 20 to 30 dB(A). Existing ambient noise levels in the area range from approximately 63 to 73 dB(A) L_{dn}.[5] Thus, visitors inside the proposed museum/conservancy building would not be affected by existing noise levels in the project area. The proposed exhibits would be designed to ensure that captive insects are not disturbed by excessive noise or vibration. Therefore, this topic will not be evaluated in the EIR.

	Yes	No	Discussed
6. Air Quality/Climate. Could the project:			
a. Violate any ambient air quality standard or contribute substantially to an existing or projected air quality violation?	TO BE DETERMINED.		
b. Expose sensitive receptors to substantial pollutant concentrations?	TO BE DETERMINED.		
c. Permeate its vicinity with objectionable odors?		X	X
d. Alter wind, moisture or temperature (including sun shading effects) so as to substantially affect public areas, or change the climate either in the community or region?		X	X

Construction Emissions

Construction of the project could generate fugitive dust, which is made up of particulate matter including PM_{10}. The Bay Area Air Quality Management District's (BAAQMD) *CEQA Guideline* note that quantification of construction emissions is not necessary, provided that all feasible dust control measures for construction are implemented. The project sponsor would implement these measures, identified on page 30, thereby reducing construction dust impacts to a less-than-significant level. San Francisco Ordinance 175-91, adopted by the Board of Supervisors on May 6, 1991, requires that non-potable water be used for dust control activities. Contractors would obtain reclaimed water from the San Francisco Clean Water Program. Because the project would include these mitigation measures, it would not cause significant construction-related air quality impacts. As such, the EIR will not address this topic further.

Traffic Emissions

Traffic associated with the project would increase the emission of criteria air pollutants in the region. Vehicular emissions will be quantified in the EIR and compared to the BAAQMD's thresholds for criteria pollutants, including reactive organic gases (ROG), oxides of nitrogen (NO_x), and PM_{10}. Total carbon monoxide concentrations will also be quantified, in order to assess the potential for project traffic to contribute to the exceedance of CO standards.

Odors and Toxics

The proposed project involves the development of an invertebrate museum, with associated retail and food service uses. Toxic air pollutants are not expected to occur in any large amounts in conjunction with the operation of the project. Only common forms of hazardous or toxic substances typically used or stored in conjunction with institutional, food service, or retail uses are expected to occur on site (e.g., cleaning products). These substances are not expected to have the potential to generate toxic air emissions in substantial amounts. The project proposes to use an autoclave, which is a device that uses high temperature and pressure to sterilize objects, when disposing of dead or diseased plant and insect material, in accordance with USDA requirements. Following autoclaving, the sterilized plant and insect material would be disposed of with the regular wastes. No toxic air emissions would occur in conjunction with use of an autoclave on the site. The project would not include the use of an incinerator. Given the above information, this topic requires no further discussion in the EIR.

In general, the proposed museum uses, including the proposed autoclave, would not result in objectionable odors. However, cooking odors from food service uses, if not property filtered, could affect nearby sensitive receptors (e.g., residents of the Golden Gateway Center). Given that any on-site restaurants, food carts, or other food service establishments would be required to comply with San Francisco Public Health Department requirements for proper food storage and kitchen filtration, no impacts would be expected. Furthermore, any restaurant or food service establishment developed as part of the project would not introduce a new use to the area, which already has many restaurants and food service businesses. Therefore, this topic requires no further evaluation in the EIR.

Shadow and Wind Effects

Section 295 of the City Planning Code was adopted in response to Proposition K (passed in November 1984) in order to protect public open spaces from shadowing by new structures during the period between one hour after sunrise and one hour before sunset, year round. Section 295 restricts new shadow upon public open spaces under the jurisdiction of the Recreation and Park Department by any structure exceeding 40 feet unless the City Planning Commission finds the impact to be insignificant. The proposed museum/conservatory buildings would not be more than 40 feet tall and therefore are not subject to Proposition K requirements. Given this, shadow impacts would be less than significant. However, because the proposed buildings would be located next to an existing recreational area (Justin

Herman Plaza and the existing open space of Blocks 202 and 203), an analysis of shadow effects will be included in the EIR for informational purposes.

Given the relatively low height of the proposed buildings (40 feet or less), and the fact that the majority of the site would be retained as open space, no substantial wind effects from the project are anticipated. Therefore, this topic will not be discussed further in the EIR.

7. Utilities/Public Services. Could the project:	Yes	No	Discussed
a. Breach published national, state or local standards relating to solid waste or litter control?		X	X
b. Extend a sewer trunk line with capacity to serve new development?		X	X
c. Substantially increase demand for schools, recreation or other public facilities?		X	X
d. Require major expansion of power, water, or communications facilities?		X	X

Solid Waste

San Francisco's solid waste is disposed of at the Altamont Landfill. A substantial expansion of the landfill was approved in 1997; therefore, the landfill will be able to accommodate San Francisco's solid waste stream well into the future. The proposed project would incrementally increase solid waste generation, but not in excess of amounts expected and provided for in the project area, and would not be expected to have any substantial effect on the life of the Altamont Landfill. In accordance with USDA requirements, the project would sterilize dead or diseased plant or insect materials with an autoclave prior to disposing of these materials with the regular wastes. No national, state, or local solid waste standards would be violated. This topic requires no further analysis and will not be included in the EIR.

Wastewater

The site is served by San Francisco's combined sewer system, which handles both sewage and stormwater runoff. No new sewer construction would be needed because the project area is already adequately served by sewer infrastructure. New connections would be made from the project buildings to existing lines, but no sewer lines with trunk capacity to serve new development are proposed. Wastewater treatment is provided primarily by the Southeast Water Pollution Control Plant. The project would meet any wastewater pre-treatment requirements of the San Francisco Public Utilities Commission, as required by the San Francisco Industrial Waste Ordinance. The project would incrementally increase wastewater flows, but not in excess of amounts expected and provided for in the project area, and would not be expected to have any substantial effect on sewer services. (Impacts related to stormwater runoff are discussed under checklist item 10, Water, below.) This topic requires no further analysis and will not be included in the EIR.

A 1,750-square foot non-operating pump station is located within a 7,150-square-foot fenced maintenance yard on Block 203. The pump station is under the jurisdiction of the San Francisco Public Utilities Commission (the station was formerly under the jurisdiction of the Department of Public Works), and is identified as the Drumm Street pump station. Operation of the Drumm Street pump station was phased out shortly after a new pump station for the area went on line in 1982. The pump station building is still regularly maintained by the Public Utilities Commission, primarily to pump out groundwater that collects in the structure.[6]

Police and Fire Protection Services

The project site is currently used for passive recreational activities, and receives police and fire protection services. The development of a museum could increase the number of calls for service over the existing recreational use of the site. However, the project-related increase in demand for police and fire protection services would not be substantial given the overall demand for such services in downtown San Francisco. No new police or fire prevention facilities would be required by the project. Given this information, this topic requires no further analysis and will not be included in the EIR.

Recreation

The proposed project would involve the development of an invertebrate museum; the majority of the site would remain as public open space. As noted under checklist item 1 above, the reduction of open space for recreation will be evaluated in the EIR.

Other Public Utilities

The proposed project would incrementally increase the demand for and use of power, water, communication, and other public utilities, but not in excess of amounts expected and provided for in the project area, and would not be expected to have any substantial effect on these public utilities. (Energy use is discussed under checklist item 11, below.) This topic requires no further analysis and will not be included in the EIR.

	Yes	No	Discussed
8. Biology. Could the project:			
a. Substantially affect a rare or endangered species of animal or plant or the habitat of the species?		X	X
b. Substantially diminish habitat for fish, wildlife or plants, or interfere substantially with the movement of any resident or migratory fish or wildlife species?		X	X
c. Require removal of substantial numbers of mature, scenic trees?		X	X

The project site is the former location of the Clay and Washington Street ramps of the Embarcadero Freeway in downtown San Francisco. The site consists of open turf areas, trees, walking paths, and a

Public Utilities Commission pump station. The site is completely bounded by urbanized uses, including The Embarcadero roadway, Justin Herman Plaza, and office and residential high-rise buildings.

No rare or endangered plant or animal species are known or expected to occur on the site. No watercourses cross the site; therefore, no fish or aquatic species habitat would be affected by project development. During a field survey conducted on September 29, 1999 by a biologist, a number of common wildlife species were observed on site, including fox squirrel, Brewer's blackbird, and house sparrow.[7] While development of the site would reduce the size of habitat for the species observed, is not expected to diminish or result in the permanent loss of any species or adversely impact local wildlife populations. Furthermore, the open space proposed as part of the project would include landscaping with native plant and tree species intended to attract native insects such as butterflies.

Development of the project would require the removal of approximately 94 trees from the site. Given that these trees are non-native and not utilized by any special status wildlife species, the tree removals would not be substantial in terms of biological resources. However, the visual impacts of tree removal will be discussed in the EIR (as noted under checklist item 2, Visual Quality, above).

The project would involve displays of live butterflies, other insects, and spiders, in accordance with permitting requirements of the USDA and the California Department of Food and Agriculture (CDFA). These requirements generally consist of design guidelines and operational standards intended to prevent the escape of any non-native insects from the facility. Because the USDA and CDFA requirements would need to be met prior to receiving a permit to operate the Butterfly Discovery Park, and because USDA officials would regularly inspect the facility during operation, the proposed project is not expected to result in any significant impacts related to escaped non-native butterflies or other arthropods.

Given the above information, no impacts related to biological resources would occur, and this topic requires no further discussion in the EIR.

	Yes	No	Discussed
9. Geology/Topography. Could the project:			
a. Expose people or structures to major geologic hazards (slides, subsidence, erosion and liquefaction)?		X	X
b. Change substantially the topography or any unique geologic or physical features of the site?		X	X

The information presented in this checklist item is based on a report prepared by Treadwell & Rollo in October 1999.[8]

The project site includes an area along the fringe of San Francisco Bay that has a varied history of use and consequently, alteration of the topographical and geologic environment. Most of the site is at about Elevation 0.0 feet, except for several landscaped areas, which are as high as Elevation +14.0.

Subsurface Profile

The geologic materials along the eastern San Francisco waterfront typically consist of fill, Bay mud, the Posey Formation, Old Bay Clay, the Alameda Formation, and bedrock.

Fill beneath the site is between 20 and 28 feet thick. The fill material is typically sandy, loose to medium dense, and contains rubble consisting of brick, concrete fragments, and wood. It was most likely placed by end dumping dune sand and rubble as part of the mid- to late-1800's land reclamation and the post-1906 earthquake leveling process.

Silts and clays known locally as Bay mud underlie the fill. This deposit has been observed to depths between 70 and 90 feet below the fill (elevations between –90 and –110 feet). The Bay mud is most likely normally consolidated, compressible, and soft. (Normally consolidated clays have not experienced a load greater than the load that currently exists and total primary settlement has occurred under this load.)

The Posey Formation, Old Bay Clay, and Alameda Formation are composed of undifferentiated sands with clay lenses, clays and clays with sand, and colluvial clays and sands, respectively. These materials underlie the Bay mud and extend to bedrock. Sands within these deposits are strong and relatively incompressible when confined, and clays are stiff, moderately compressible and over consolidated. (Over consolidated clays have experienced a load greater than the weight of the current overburden.)

The bedrock underlying the site is of the Franciscan complex. Geologic maps indicate the bedrock beneath the site is between 210 and 260 feet deep and slopes downward to the southeast. The bedrock consists predominately of highly sheared and altered shale with zones of sandstone and intrusions of serpentine.

Groundwater levels have been observed on the site between 8.5 and 11.5 feet deep, corresponding to mean sea level.

Geologic Hazards

The site is in the seismically active San Francisco Bay area, and is subject to the effects of large magnitude earthquakes. The significant earthquakes that have occurred in the Bay Area are generally associated with crustal movement along well-defined active fault zones that include the San Andreas, Hayward, and Calaveras Faults. The two closest active faults are the San Andreas and Hayward Faults, which are approximately 9.7 miles southwest and 10.4 miles northeast of the site, respectively. The Calaveras Fault is about 25.3 miles northeast of the site.

In 1990, the Working Group on California Earthquake Probabilities (WGCEP), organized by the U.S. Geological Survey (USGS), predicted a 67% probability of a Moment magnitude 7.0 earthquake occurring in the San Francisco Bay area between 1990 and 2020. (Moment magnitude is an energy based scale directly related to a physical measure of the earthquake size in terms of fault length, fault width, average slip rate and mean displacement.)

The site is within an area of San Francisco that is expected to experience "violent" shaking in the event of a large magnitude earthquake. Generally, brick and frame structures will collapse when not structurally strong, and structurally strong buildings may experience serious cracking. Lateral displacement and ground fissuring is likely. The site is within the boundary of inundation from a 20-foot tsunami at the Golden Gate. The project area is not subject to landslide or reservoir inundation hazards. The project site is not in an Alquist-Priolo Earthquake Fault Zone.

The site has been mapped within the zone of liquefaction potential on the State of California Seismic Hazard Zones map, by the Division of Mines and Geology. As such, there is the potential for liquefaction, lateral spreading, and differential compaction to occur on the site. (Liquefaction is a phenomenon in which saturated, cohesionless soil experiences a temporary loss of strength due to the buildup of excess pore water pressure, especially during cyclic loading such as that induced by earthquakes. Soil most susceptible to liquefaction is loose, clean, saturated, uniformly graded, fine-grained sand and silt of low plasticity that is relatively free of clay. Lateral spreading is a phenomenon in which surficial soil displaces along a shear zone that has formed within an underlying liquefied layer. Upon reaching mobilization, the surficial blocks are transported downslope or in the direction of a free face by earthquake and gravitational forces. Differential compaction is a phenomenon in which non-saturated, cohesionless soil is densified by earthquake vibrations, causing differential settlement.)

A 1991 study prepared for the City and County of San Francisco indicates that 0.25 to 2 feet of liquefaction settlement and 0.25 to 1 foot of lateral spreading would occur during and after a Moment magnitude 7.9 earthquake.

Geologic Impacts

The site consists primarily of landscaped open space, and does not contain any unique geologic or topographic features; therefore, no impacts related to topography would occur.

Because the site lies within a seismic hazard zone, the San Francisco Department of Building Inspection (DBI) would require a geotechnical report as part of the permit application for the proposed project. The report would be prepared by a California licensed geotechnical engineer, and would provide conclusions and recommendations regarding subsurface characterization, appropriate foundation types and design criteria, construction considerations, site seismicity, seismic hazards, seismic hazard mitigation, and 1999 San Francisco Building Code seismic design criteria. The geotechnical engineer would review all relevant site plans to ensure conformance with the geotechnical recommendations provided within the report. The DBI would review the geotechnical report and building plans to ensure compliance with current San Francisco Building Code provisions regarding structural safety. During construction, a geotechnical engineer would be retained to observe construction practices and ensure compliance with the geotechnical report. Adherence to the above measures would reduce all geologic and geotechnical impacts to a less-than-significant level.

The most probable foundation system would be a structural mat foundation at or near grade. The assumed maximum thickness of the mat foundation would be approximately three feet. Based on a 1.5-foot average depth of excavation for the Phase I and II buildings, the estimated amount of soil to be removed from the site would be approximately 2,000 cubic yards for each project phase.

Other Impacts

Although a structural mat foundation system is the most likely, considering the potential for settlement at the site, it is possible that a pile foundation system would be required for the proposed structures. Potential impacts and mitigation measures related to noise and vibration from pile driving are discussed under checklist item 5, Noise, above. Dewatering of the site may also be necessary. Potential impacts and mitigation measures related to dewatering are discussed under checklist item 10, Water, below. Site grading would disturb the existing fill material. Measures to prevent dust and transfer of soil to adjacent streets are discussed under checklist item 6, Air Quality/Climate, above.

	Yes	No	Discussed
10. Water. Could the project:			
a. Substantially degrade water quality, or contaminate a public water supply?		X	X
b. Substantially degrade or deplete groundwater resources, or interfere substantially with groundwater recharge?		X	X
c. Cause substantial flooding, erosion or siltation?		X	X

Water Quality

The project does not include any point sources of water pollution. Non-point sources include pollution in runoff from the project site, and increased automobile and bus travel contributing to pollution in runoff from nearby roadways. As under existing conditions, this runoff would enter the City's combined sewer system and be treated at the Southeast Water Pollution Control Plant. Treatment would be provided pursuant to the effluent discharge limitations set by the Plant's National Pollutant Discharge Elimination System (NPDES) permit. The project site does not contain and is not located adjacent to a public water supply; therefore, no impacts would occur. Given this information, water quality will not be discussed further in the EIR.

Groundwater Resources

The project would preserve approximately 75% of the site as public open space, consisting of landscaped areas with meandering pedestrian pathways. Given that a substantial amount of the site will remain as permeable landscaping, no impacts related to interference with groundwater recharge would occur.

Dewatering could be required as part of project excavation. Any groundwater encountered during construction would be subject to the San Francisco Industrial Waste Ordinance (Ordinance No. 199-77), which requires that groundwater meet specified standards before being discharged into the sewer system. The Bureau of Environmental Regulation and Management of the San Francisco Public Utilities Commission would be notified if the project were to require dewatering.

Should dewatering be necessary, the final foundation study for the project would address the potential settlement and subsidence impacts of the dewatering. A monitoring survey may be required by the Department of Building Inspection in order to monitor settlement and subsidence. If unacceptable movement were to occur during construction, groundwater recharge would be used to halt the settlement. The project would include mitigation measures, discussed on page 30, to reduce the potential water quality impacts of dewatering. Therefore, impacts related to groundwater will not be discussed further in the EIR.

Flooding, Erosion, and Siltation

The project site currently consists of open turf areas and paved pedestrian paths. Development of the project would increase the amount of impervious surface on the site, resulting in an increase in runoff to the City's combined sewer system and Southeast Water Pollution Control Plant. The entire site is approximately 230,550 square feet in size (5.3 acres); the proposed building footprint would occupy about 58,000 square feet (1.3 acres, or 25% of the total site area). Runoff calculations indicate that, under worst-case assumptions (site area is 100% turf under existing conditions and 100% paved following project), the proposed project would increase runoff from the site by approximately 1.9 million gallons per year. This increase in runoff would represent less than one one-hundredth of one percent of the 30,000 million gallon per year Bayside Flow, and would be considered less than significant. During construction, requirements to reduce erosion would be implemented pursuant to California Building Code Chapter 33, Excavation and Grading. During operations, the project would comply with all local wastewater discharge requirements.

	Yes	No	Discussed
11. Energy/Natural Resources. Could the project:			
a. Encourage activities which result in the use of large amounts of fuel, water, or energy, or use these in a wasteful manner?		X	X
b. Have a substantial effect on the potential use, extraction, or depletion of a natural resource?		X	X

The project would involve the development of two new museum buildings, to house exhibits, educational and research facilities, and food service and retail uses. Development of these uses would not result in the use of large amounts of fuel, water, or energy. The project would meet current state and local codes pertaining to energy consumption, including Title 24 of the California Code of Regulations enforced by the Department of Building Inspection. As such, the project would not result in a wasteful use of energy.

In 1996, the City and County of San Francisco consumed approximately 5,000 gigawatt-hours (GWh) of electricity and approximately 27,000,000 million British thermal units (MMBtu) of natural gas. Electricity demand statewide and in the City tends to grow at approximately 1% to 2% per year. Natural gas consumption is expected to grow similarly but actually peaked in San Francisco in 1989 at approximately 32,000,000 MMBtu and has not yet returned to that level.[9] No energy shortages exist at this time in the State of California.

The project's electricity demand and natural gas consumption was estimated to be approximately 3.5 GWh and 4,200 MMBtu per year, respectively. Additional energy would be consumed during construction of the proposed project and by transportation of workers to and from the site. Because the project would comply with Title 24 energy efficiency requirements, it would not be considered to use energy wastefully. Given this information, no substantial environmental effects are expected, and energy consumption will not be discussed further in the EIR.

Other than natural gas and coal fuel used to generate electricity for the project, the project would not use substantial quantities of other non-renewable natural resources. Therefore, the project would not have a substantial effect on the use, extraction, or depletion of a natural resource. This topic will not be evaluated further in the EIR.

12. Hazards. Could the project:	Yes	No	Discussed
a. Create a potential public health hazard or involve the use, production, or disposal of materials which pose a hazard to people or animal or plant populations in the area affected?		X	X
b. Interfere with emergency response plans or emergency evacuation plans?		X	X
c. Create a potentially substantial fire hazard?		X	X

Hazardous Materials Use

The project would involve the development of a museum that would require relatively small quantities of hazardous materials for routine operational purposes. The project would likely handle common types of hazardous materials, such as paints, cleaners, and solvents. These products are labeled to inform users of potential risks and to instruct them in appropriate handling procedures. Most of these materials are consumed through use, resulting in relatively little waste. Businesses are required by law to ensure employee safety by identifying hazardous materials in the workplace, providing safety information to workers that handle hazardous materials, and adequately training workers.

The project would follow all USDA requirements related to housing live butterflies, other insects and spiders, and plant species. The project proposes to use an autoclave when disposing of dead or diseased plant and insect material, in accordance with USDA requirements. Following autoclaving, the sterilized plant and insect material would be disposed of with the regular wastes.

Given the above information, hazardous materials requires no further discussion in the EIR.

Soil and Groundwater

Historical activities at the project site and in its vicinity have resulted in the release of contaminants into soil and groundwater. A Phase II site assessment was conducted for the project site in 1993, and utilized in the Mid-Embarcadero EIS/EIR. Soil samples collected on the site contained metals exceeding regulatory thresholds, semi-volatile organic compounds, and asbestos. The Mid-Embarcadero EIS/EIR concluded that excavation within the project site could encounter soils containing these hazardous materials.[10]

The project site is located within the part of San Francisco created by landfill, and would be subject to the provisions of Article 20 of the San Francisco Municipal Code (the Maher Ordinance). In accordance with the Maher Ordinance, the project sponsor would be required to prepare a Site Mitigation Plan (SMP) prior to soil disturbance. (Assuming a structural mat foundation at or near grade, the estimated amount of soil to be removed from the site would be approximately 2,000 cubic yards for each project phase.) The SMP would be submitted to appropriate agencies, including the San Francisco Department of Public Health. In accordance with the Maher Ordinance, the construction contractor would handle and dispose of excavated soils properly, employ worker health and safety and dust control measures, and have a State Registered Professional Geologist or Engineer certify, at the end of completion of foundation activities, that all elements of the SMP have been performed in compliance with the Maher Ordinance. Compliance with the Maher Ordinance would ensure that impacts related to hazardous soils and groundwater are less-than-significant.

Emergency Response Plans

The site does not support any critical or emergency facilities and the project would not alter any evacuation routes.

Fire Hazards

The project site currently consists of open, landscaped areas; there are no features present that pose a fire hazard. Development of a museum/conservancy on the southern portion of the site, provided it was constructed in accordance with the San Francisco Fire Code, would not create a substantial fire hazard. This topic requires no further discussion and will not be evaluated in the EIR.

	Yes	No	Discussed
13. Cultural. Could the project:			
a. Disrupt or adversely affect a prehistoric or historic archaeological site or a property of historic or cultural significance to a community or ethnic or social group; or a paleontological site except as a part of a scientific study?		X	X
b. Conflict with established recreational, educational, religious or scientific uses of the area?	TO BE DETERMINED.		
c. Conflict with the preservation of buildings subject to the provisions of Article 10 or Article 11 of the City Planning Code?		X	X

Archaeological Resources

No previously recorded sites or artifacts from the Prehistoric Period (ca. 6000 B.C. to 1770 A.D.) have been found or recorded within the project site. The closest previously recorded site is CA-SFr-112, an intact habitation site with shell midden, artifacts, and burials, some 2,000 feet southwest of The Embarcadero and Market Street.[11]

The project site was under waters of the San Francisco Bay (specifically, Yerba Buena Cove) during the Spanish/Mexican/Early American Periods (ca. 1770 to 1848). The historic shoreline near the project site was near the present line of Montgomery Street. No known buried ship hulks or other artifacts are known to have been recovered from or near the project site from this period of historic occupation of San Francisco. However, it is remotely possible that unrecorded sunken small boats from this period may be present at undetermined locations.[12]

During the Gold Rush Period (ca. 1849 to 1857), numerous wharves, warehouses, and other shipping-related structures were constructed along the shores of Yerba Buena Cove. This time period also marked the onset of the filling-in of Yerba Buena Cove, which continued into the City Building Period (ca. 1858 to 1906). The Mid-Embarcadero EIS/EIR identified a number of potential buried archaeological resources on the project site that date from the Gold Rush and City Building Periods, including the ship Elizabeth which was scuttled near the project site, other unknown ships, undocumented commercial and domestic building sites, and historic fill material. The specific locations or depths of these resources on the project site are not known.[13]

Excavation activities to construct the museum/conservatory foundation could affect these subsurface resources. The project includes a mitigation measure, identified on page 30, that is intended to reduce the potential impact to archaeological resources to a less-than-significant level. Archaeological resources will not be discussed further in the EIR.

Public Art

On one of the decks leading to the pedestrian bridge connecting Block 203 to the Maritime Plaza is a sculpture entitled "Movement: The First 100 Years." This sculpture was given to the people of the U.S. on May 19, 1983 by the Korea-U.S.A. Centennial Committee of the Republic of Korea to mark the 100th anniversary of the Treaty of Peace, Amity, Commerce, and Navigation; it was designed by Choi Man Lin. Because the proposed Phase II museum building would be built on the existing location of the deck, the project would involve moving the sculpture to another location within the open space portion of the site. Relocation of the sculpture, including the determination of a new location within the site, would require approval from the Art Commission. The project sponsor would take appropriate measures to ensure that the sculpture "Movement: The First 100 Years" is not damaged during construction or relocation activities, and such activities would be overseen by a representative of the Art Commission. Protective measures would include removing the sculpture from Block 203 before any construction begins on the Phase II museum and either relocating it to a permanent location on Block 202 or holding it in a protected, temporary location prior to permanent relocation to Block 203, and covering the sculpture with appropriate protective materials during relocation. Given this, impacts to the sculpture would be less-than-significant.

Recreational Uses of the Site

The project site is currently designated Public Open Space in the San Francisco *General Plan*, and is used for passive recreational activities. The project proposes to construct approximately 58,000 square feet of building footprint on the southern portion of Blocks 202 and 203. The rest of the site would remain in open space uses. Potential impacts to existing recreational uses of the site will be evaluated in the Land Use section of the EIR.

Historic Buildings

The project site primarily consists of open turf area. A structure housing a Public Utilities Commission pump station is located in the northeast corner of Block 203; this structure would be demolished as part of project construction. This structure is not subject to Article 10 or Article 11 of the City Planning Code and is not located in or near a historic or conservation district. As such, this topic requires no further analysis and will not be discussed in the EIR.

C. OTHER	Yes	No	Discussed
Require approval and/or permits from City Departments other than Department of City Planning or Department of Building Inspection, or from Regional, State or Federal Agencies?	X		X

The project site is designated as Public Open Space in the Recreation and Open Space Element of the *General Plan*. The project sponsor has proposed a text amendment to the Recreation and Open Space

Element to allow the proposed museum use within the Public Open Space designation. The site is zoned P (Public) with an OS (Open Space) height and bulk district. The project sponsor has obtained a determination from the Zoning Administrator that the project falls under Planning Code Sections 209.3 (d) and 234.2, and can be developed as a conditional use under the P District. Project development would require approval of a conditional use permit by the Planning Commission.

The project sponsor will submit an application for a planned unit development and conditional use authorization for the proposed project, since it will be constructed on two adjacent blocks on a site in excess of one-half acre. In addition, the project sponsor will landscape the area remaining under the City's jurisdiction. At this time, as part of the request for a planned unit development, the project sponsor will request deviation from the off-street parking requirements of the Planning Code. As the environmental review process and further design development proceed, there may by other requested deviations from the Planning Code quantitative standards.

Construction of the proposed enclosed pedestrian bridge over Drumm Street would require referral of the permit application to the Planning Department for findings of consistency with the *General Plan*. The permit application would be subject to a hearing by the Planning Commission and, if requested by an interested party, the Department of Public Works. If the Director of Public Works decides to recommend approval of the encroachment permit application, an ordinance would be drafted and presented to the Board of Supervisors for public hearing and action.

Project development would require issuance of a building permit by the Department of Building Inspection, following conditional use authorization. If the project sponsor is responsible for the demolition of the existing pump station, a demolition permit must also be approved by the Department of Building Inspection.

Other approvals include design review of the proposed buildings and pedestrian bridge by the Art Commission, approval of the sculpture relocation by the Art Commission, review and approval of the landscaping plan by the Recreation and Park Commission, approval of street improvement plans and street tree plantings by the Department of Public Works, and approval of a minor encroachment permit for any curb cut for off-street loading facilities.

Pursuant to Proposition M, the Planning Commission would also be required to determine that the project is consistent with the City's Priority Policies. Approval actions will be described further in the EIR.

D. MITIGATION MEASURES	Yes	No	N/A	Discussed
1. Could the project have significant effects if mitigation measures are not included in the project?	X			X
2. Are all mitigation measures necessary to eliminate significant effects included in the project?		TO BE DETERMINED.		

Noise

1. If pile driving is necessary to install pile foundations, the project sponsor would require its contractors to pre-drill holes to the maximum depth feasible on the basis of soil conditions. Contractors would be required to use construction equipment with state-of-the-art noise shielding and muffling devices. The project sponsor would also require its contractors to schedule pile driving activity for times of the day that would be consistent with the Noise Ordinance.

Air Quality

2. In accordance with the BAAQMD *CEQA Guidelines*, the project sponsor would require the contractor to implement the following dust control measures: a) Water all active construction areas at least twice daily; b) Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard; c) Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites; d) Sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas at construction sites; and e) Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets.

Water Quality

The project sponsor would ensure that groundwater from site dewatering and stormwater runoff meets the discharge limitations of the City's Industrial Waste Ordinance by carrying out the following:

3. If dewatering were necessary, the project sponsor would follow the recommendations of the geotechnical engineer or environmental remediation consultant, in consultation with the Bureau of Environmental Regulation and Management of the San Francisco Public Utilities Commission, regarding treatment, if any, of pumped groundwater prior to discharge to the combined sewer system.

   If dewatering were necessary, groundwater pumped from the site would be retained in a holding tank to allow suspended particles to settle, if this were found to be necessary by the Bureau of Environmental Regulation and Management of the San Francisco Public Utilities Commission to reduce the amount of sediment entering the combined sewer system.

Cultural Resources

4. The project sponsor would retain an archaeologist to conduct a detailed literature search and a pre-excavation testing program to evaluate the probability of finding buried historic archaeological remains within the portion of the site proposed for development. If, after a literature search and testing, the archaeologist determines that no further investigations or precautions are necessary to safeguard potentially significant archaeological resources, the archaeologist would submit a written report to the Environmental Review Officer, with a copy to the project sponsor. If the archaeologist

determines that further investigations or precautions are necessary, he or she would consult with the Environmental Review Officer, and they would jointly determine what additional procedures are necessary to minimize potential effects on archaeological resources.

These additional measures would be implemented by the project sponsor and could include a program of on-site monitoring of all site excavation, during which the archaeologist would record observations in a permanent log. The monitoring program, whether or not there are findings of significance, would result in a written report to be submitted first and directly to the Environmental Review Officer, with a copy to the project sponsor. During the monitoring program, the project sponsor would designate one individual on site as its representative. This representative would have the authority to suspend work at the site to give the archaeologist time to investigate and evaluate archaeological resources if they are encountered.

If evidence of historic archaeological resources of potential significance were found during the monitoring program, the archeologist would immediately notify the Environmental Review Officer, and the project sponsor would halt any activities that the archaeologist and the Environmental Review Officer jointly determine could cause damage to such cultural resources.

After notifying the Environmental Review Officer, the archaeologist would prepare a written report to be submitted first and directly to the Environmental Review Officer, with a copy to the project sponsor, which would contain an assessment of the potential significance of the find and recommendations for what measure should be implemented to minimize potential effects on archaeological resources. Based on this report, the Environmental Review Officer would recommend specific additional measures to be implemented by the project sponsor. These additional measures could include a site security program, additional on-site investigations by the archaeologist, or documentation, preservation, and recovery of cultural material.

Finally, the archaeologist would prepare a report documenting the cultural resources that were discovered, an evaluation as to their significance, and a description as to how any further archaeological testing, exploration, or recovery program is to be conducted.

Copies of all draft reports prepared according to this mitigation measure would be sent first and directly to the Environmental Review Officer for review. Following approval by the Environmental Review Officer, copies of the final reports would be sent by the archaeologist directly to the President of the Landmarks Preservation Advisory Board and the California Archaeological Site Survey Northwest Information Center. Three copies of the final archaeology reports would be submitted to the Environmental Review Officer, accompanied by copies of the transmittals documenting its distribution.

E. MANDATORY FINDINGS OF SIGNIFICANCE

	Yes	No	Discussed
1. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or pre-history?		X	X
2. Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals?		X	X
3. Does the project have possible environmental effects which are individually limited, but cumulatively considerable? (Analyze in the light of past projects, other current projects, and probably future projects.)	TO BE DETERMINED.		
4. Would the project cause substantial adverse effects on human beings, either directly or indirectly?	TO BE DETERMINED.		

F. ON THE BASIS OF THIS INITIAL STUDY

I find the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared by the Department of City Planning.

I find that although the proposed project could have a significant effect on the environment, there WILL NOT be a significant effect in this case because the mitigation measures listed in Section 4.0 of the discussion have been included as part of the proposed project. A NEGATIVE DECLARATION will be prepared.

X I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

HILLARY E. GITELMAN
Environmental Review Officer
for
Gerald G. Green
Director of Planning

Date: 12-3-99

REFERENCES

1. Butterfly Discovery Park, memorandum to Impact Sciences, dated August 24, 1999.

2. Captain Avalos, San Francisco Fire Department, personal communication, November 30, 1999.

3. U.S. Environmental Protection Agency, *Noise from Construction Equipment and Operation, Building Equipment and Home Appliances,* NTID 300-1, 1971.

4. U.S. Department of Transportation, State of California Department of Transportation, City and County of San Francisco Planning Department, *Alternatives to Replacement of the Embarcadero Freeway and the Terminal Separator Structure, Draft Environmental Impact Report*, August 25, 1995. Available for review in the Project Case File at the San Francisco Planning Department.

5 Ibid.

6. Gary Dowd, San Francisco Public Utilities Commission, personal communication, November 4, 1999.

7. Impact Sciences, Inc., *Biological Site Assessment of the Butterfly Discovery Park Project Site*, memorandum dated September 30, 1999.

8 Treadwell & Rollo, *Butterfly Discovery Park, Geology/Topography*, letter report to Impact Sciences, Inc., October 11, 1999.

9. City and County of San Francisco Planning Department, *First and Howard Streets Project, Draft Environmental Impact Report*, September 11, 1999. Available for review in the Project Case File at the San Francisco Planning Department.

10. U.S. Department of Transportation, State of California Department of Transportation, City and County of San Francisco Planning Department, *Alternatives to Replacement of the Embarcadero Freeway and the Terminal Separator Structure, Draft Environmental Impact Report*, August 25, 1995. Available for review in the Project Case File at the San Francisco Planning Department.

11. City and County of San Francisco Planning Department, *Assessors' Blocks 202 and 203, Preliminary Draft Environmental Impact Report*, February 18, 1997. Available for review in the Project Case File at the San Francisco Planning Department.

12. Ibid.

13. Ibid.

PLACE
POSTAGE
HERE

San Francisco Planning Department
Major Environmental Analysis
1660 Mission Street, Suite 500
San Francisco, CA 94103

Attn: Lezley Buford, EIR Coordinator
1999.244E – Butterfly Discovery Park Project

PLEASE CUT ALONG DOTTED LINE

RETURN REQUEST REQUIRED FOR FINAL ENVIRONMENTAL IMPACT REPORT

REQUEST FOR FINAL ENVIRONMENTAL IMPACT REPORT

TO: San Francisco Planning Department,
Major Environmental Analysis

Please send me a copy of the Final EIR.

Signed:

Print Your Name and Address Below